

24 January

MEMORANDUM FOR ALL TRAINING UNITS

SUBJECT: Change 1 to FAPH Reg 350-2, "Range Regulations",
1 February 1996

1. Page 1-17, paragraph 1-22, Add "new" subparagraph "c" to read as follows:

c. CEASE FIRE-FREEZE Procedures: Any person observing a condition that makes firing unsafe will command CEASE FIRE (hand and arm signal is waving arms extended above head). Whenever there is a serious situation on the range complex the command to CEASE FIRE-FREEZE will be given over all Range Control frequencies, placing all ranges in cease fire. RNOIC/RSO will insure that all personnel have been briefed on these procedures. OIC is responsible to execute the following CEASE FIRE-FREEZE actions upon receipt of this net call:

- (1) Immediate cease-fire.
- (2) Weapons put on "safe", placed on the ground, facing down-range and personnel moved to the rear.
- (3) Secure site, maintain last fired weapons settings and continue to monitor the net.

2. Page 1-10, Paragraph 1-7: Make existing paragraph, subparagraph a.

Add "new" subparagraph b to read as follows: Personnel acting as RNOIC/RSO must be familiar with this directive and ensure the guidelines are followed by all personnel. RNOIC/RSO are required to pass a test after receiving the briefing from Range Control to be certified. This test will include questions from this regulation concerning range/safety procedures and will include specific questions to test general knowledge on the weapon systems the individual is seeking certification on.

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3. Page 12-4, Paragraph 12-4c, Add the word "Approved" before "surface danger zones must be briefed to leaders and safety personnel before starting the exercise." Delete remainder of paragraph 12-4c.

Add "new" subparagraph d to read as follows: "Leaders, safety personnel and Range Control personnel will do a terrain walk and survey the physical limits of the maneuver area and surface danger zones prior to conduct of the operation."

Change existing subparagraph d to "e".

Change existing subparagraph e to "f".

4. Page B-1, RNOIC/RSO Command Certification Letter (Sample), add a column to paragraph 3 to read as follows: WEAPONS/AMMO (see example below).

<u>NAME</u>	<u>RANK</u>	<u>SSN</u>	<u>WEAPONS/AMMO</u>
Tentpeg, Joseph E. Mortars/60,81MM	1LT	123-45-6789	
Snuffy, Harold D. Arms/5.56	SFC	987-65-4321	Small
Dean, Jimmy D. Demolitions/All	SFC	111-11-1111	

5. Page 8-8, paragraph 8-11a(4) change to read as follows:

(4) High Explosive Mines will be detonated by an electrically primed one-half pound charge placed 6 inches beside mine. Personnel involved will wear protective helmets, hearing protection, and flak vests, and will be in defilade at least 200 meters from the detonation. No anti-personnel mines will be used for live-fire (M-14/M-16). Live mine training is authorized with the M-15, M-19, M-21 AT mines and Claymore mines. Use of tilt-rods is prohibited. All live mines will be surface laid only - never buried. All live mine fields emplaced will be enclosed on all 4 (four) sides with wire to prevent accidental access to the area. Unit is required to brief the mine-field training plan to Range Control on the actual site, prior to arming any live mines. Night movement of vehicles within 100 meters of the minefield perimeter must utilize ground guides.

6. Page 1-15, Paragraph 1-18f. Change existing subparagraph (5) to read: "Blackout drive at night (unassisted) - 5 MPH."

Add "new" subparagraph (6) NVG assisted at night - 10 MPH.

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7. Page 1, Paragraph 1-18g(2), "Add": Vehicles moving in either a bivouac or range location will have ground guides even if white lights are used.

8. Point of contact for comments on FAPH Regulation 350-2 is Mr. Walt Mercer, Chief, Training and Range Operations, at (804) 633-8333 or DSN 578-8333.

JOHN E. DUMOULIN, JR.
LTC, AV
Commanding

*APH Reg 350-2 (1 Feb 96)

DEPARTMENT OF THE ARMY
HEADQUARTERS, U.S. ARMY GARRISON, FORT A.P. HILL
BOWLING GREEN, VIRGINIA 22427-5000

APH Regulation 350-2

1 February 1996

RANGE REGULATIONS

____FOR THE COMMANDER:

DISTRIBUTION:
A, B, and Using

Units

WILLIAM L. FRANKLAND, III
LTC, QM
Commanding

OFFICIAL:

BRUCE L. HOPKINS
Deputy to the Commander

History. This publication was last published 1 February 1989.
This printing publishes changes made since that date.

Summary. This is a revision of a current regulation. It
establishes policies and procedures for the use of ranges and
live-fire facilities at Fort A.P. Hill.

Applicability. This regulation applies to all users of the
Fort A.P. Hill range complex.

Suggested Improvements. The proponent of this regulation is
the Directorate of Plans, Training, Mobilization and Security,
Fort A.P. Hill. Users are invited to send comments and
suggested improvements on DA Form 2028, Recommended Changes to
Publications and Blank Forms, to Directorate of Plans,
Training, Mobilization and Security, ATTN: ANAP-OP-RC, Fort
A.P. Hill, Bowling Green, VA 22427-5000.

*This regulation supersedes Fort A.P. Hill Memorandum 350-2, dated 1 February 1989.

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CHAPTER 1

GENERAL

1-1. PURPOSE AND SCOPE

a. To prescribe procedures to be followed by all units training at Fort A.P. Hill in order to ensure realistic training that will enhance combat readiness while at the same time ensure safe operations on all range facilities.

b. This regulation supplements and supports AR 210-21, AR 385-63, and all other applicable safety directives as well as pertinent field and technical manuals.

c. This regulation applies to all military units, organizations, and other authorized individuals and agencies that use range facilities and training areas on this installation.

d. Detailed information on range facilities, capabilities, and targetry is provided in Appendix A to this document.

e. Information on training facilities that are not part of the range complex is contained in APH Memo 350-1.

f. Unless otherwise approved by the Installation Commander or the Range Officer, all personnel utilizing Fort A.P. Hill range facilities will comply with the requirements and directives prescribed in this document.

g. Although the instructions contained in this document are primarily directed toward the designated Range Officer In Charge (RNOIC) and Range Safety Officer (RSO), they in no way relieve the unit commander or his officers and NCO's of their inherent safety duties and responsibilities. The duty of the RNOIC and RSO is to ensure that unit personnel adhere to proper procedures. It is imperative therefore, that the unit officers and NCO's be thoroughly knowledgeable and competent in the performance of their duties.

1-2. DEFINITIONS

a. Dud. An item of unexploded ordnance in which the fuse components have been initiated by firing but has failed to detonate.

b. Misfire. A complete failure to fire by an item of explosive ordnance due to a faulty firing mechanism or faulty element in the propelling charge explosive train. A misfire is different from a dud in that the warhead or projectile has not been fired and the arming system has not been activated.

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c. Controlled Area (CA). All range and training areas located on the south side of Route 301 and Training Areas 17 and 19 on the north side of Route 301. Unauthorized access is prohibited. Posted signs and/or locked barriers identify the boundaries and access is by permission of Range Control only.

d. Impact Area. Any area where rounds, residue, or laser

beams impact.

e. Dud Area. Any area known or likely to contain unexploded ammunition or ordnance of any kind.

1-3. RESPONSIBILITIES

a. Installation Range Officer. The Range Officer is responsible to the Commander, Fort A.P. Hill, Virginia for the control, supervision, safety, issuance, clearance, maintenance, and coordination of all range training activities and facilities on the installation. He will maintain this regulation and installation policy current to applicable range and safety directives. Under the direction of the Fort A.P. Hill Director of Plans, Training, Mobilization, and Security (DPTMS) the Range Officer will:

(1) Supervise Range Control personnel and operations. Range Control will serve as the central point of control and coordination for access to the Impact Area and the controlled air space (Restricted Airspace R6601). In addition, Range Control will operate as net control for the range and aviation tactical frequencies, the Range/Training Admin net, and as the Emergency Operations Center (EOC) for training emergencies.

(2) Oversee safety on the Range Complex, coordinate for range maintenance, and serve as the center of expertise for range safety. He will additionally maintain the office of record for all historical range data.

(3) Advise and coordinate with the RNOIC to ensure the safe and efficient operation of range facilities. This will include inspections and/or supervision of firing to guarantee compliance with this regulation.

(4) Make on the spot corrections of violations of this regulation or other applicable directives to include relieving the RNOIC/RSO when deemed appropriate. Major violations may be reported to the Commander, Fort A.P. Hill.

(5) Provide safety briefings, guidance, and range orientation for RNOIC's and RSO's.

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(6) Investigate accidents/incidents as required.

(7) Ensure that range equipment is accounted for and maintained in a serviceable condition and adequate for issue to using units.

(8) Coordinate for and oversee all planning, construction, and maintenance of range facilities.

(9) Plan and initiate actions necessary to keep the range complex abreast of changing weapons and doctrine.

(10) Notify the installation safety manager of any serious range accident or incident.

b. Installation Safety Manager.

(1) Is responsible for all aspects of the Ft A.P. Hill safety program and will provide oversight inspections.

(2) Will provide assistance to the Installation Range Officer on hazard abatement and risk assessment.

(3) Will investigate serious range accidents and incidents IAW 385-40 and file appropriate reports.

(4) Will conduct an annual review of APH Reg 350-1 and APH Reg 350-2 to ensure compliance with safety regulations.

c. Provost Marshal Office (PMO). Will provide patrols, when requested by Range Control:

(1) To assist and compliment security of all range facilities and government owned property.

(2) To apprehend speeders, trespassers, or any unauthorized personnel found in the Impact Area.

d. Directorate of Public Works (DPW).

(1) Provides support for operations and maintenance as coordinated for as an annual work requirement or as requested by service and work orders.

(2) Provides a point of contact (POC) to the Range Officer for master planning, range facility construction, project planning, environmental support, work order coordination, and emergency work requirements.

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e. Directorate of Logistics (DOL). The DOL is responsible for providing:

(1) Logistical support for Range Control in the

procurement of target material.

(2) Mechanical maintenance support for range vehicles and equipment beyond Range Control maintenance capabilities.

f. Commanders.

(1) Commanders are directly responsible for the safe operation of all range facilities and the compliance of their unit with this regulation.

(2) Battalion/Squadron commanders will certify in writing to Range Control those personnel authorized to serve as RNOIC and RSO. For all other separate units, detachments, and civilian organizations, a commander or OIC in the grade of at least 04/GS-11 will be responsible for certifying the RNOIC and RSO. This certification must be on hand prior to the personnel receiving their safety briefings from Range Control.

It is the commander's verification that the listed personnel have been thoroughly trained and have demonstrated a complete knowledge of safety procedures pertaining to the type weapons, ammunition, and/or explosives being used. The certification letter will list name, rank, SSN, and will indicate small arms, indirect fire, aviation, demolitions, or laser. Appendix B is a sample certification letter.

(3) Commanders of military units will ensure that at all times of live fire a certified RNOIC and RSO is present on the range facility being utilized. Minimum grade requirements for live-fire operations on Ft A.P. Hill are listed in the following table:

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	<u>OIC</u>	<u>RSO</u>
(a) Blank fire, MILES, Subcaliber Training Devices, Simulators, Practice Hand Grenades, Trip	E-6	E-5

Flares, Firing Devices and
Lasers

(b)	Mines and Explosive Charges	E-7	E-6
(c)	Small Arms, Machine Guns, Live Grenades, Mortars, and all other non-listed Weapons Systems	E-7	E-6
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(e)	CALFEX - <COMPANY	OFF/WO	E-7
	≥COMPANY	0-3	E-7
	≥BATTALION	0-4	E-7

Table 1-1

g. Range Officer In Charge (RNOIC). The RNOIC has responsibility for the overall safe conduct of training on his range facility. The RNOIC will be a commissioned, warrant, or noncommissioned officer in the grade listed in table 1-1 above and civilians will be at least a GS-09. The RNOIC will:

(1) Ensure that he and all RSO's are validated by a command certification letter, briefed by Range Control, have valid Safety Cards in their possession, and the unit has in-processed the installation.

(2) Be present with the RSO and required medical coverage during all live fire activities on the range facility.

(3) Sign for and be responsible for turn in all range facility equipment and keys from Range Control.

(4) Ensure that he receives a Range Acceptance/Clearance Checklist [DPTMS (APH) Form 6] from Range Control and has a copy of this Range Regulation and applicable weapons and ammunition publications on hand at the range facility prior to firing.

(5) Establish radio communications with Range Control immediately after signing for the range facility and ensure that it is maintained and monitored on dedicated equipment until the

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range facility is cleared and all keys and equipment have been turned in. A radio check will be made with Range Control to

enter the net and permission to leave the net must be received from Range Control before leaving the net.

(6) Ensure that he and the RSO know the range facility location, safe routes in and out, limits for the weapons/ordnance being used, and that Range Control has been informed about weapons systems, ammunition, simulators, flares, explosives, or other ordnance to be fired. He will make the final determination that it is safe to fire.

(7) Prior to commencing range operations, conduct a safety and information briefing for all personnel on duds, the use of hearing protection, seasonal warnings, weapons and ammunition warnings, "cease -fire freeze", and the installation's program on ammunition amnesty (AAP) and ammunition found on post (AFOP). An outline of this information is given in Appendix C.

(8) Ensure that barriers are locked or guards are in place, adequate medical coverage is available, and the red flag/light is displayed from the range facility flag pole before requesting "hot status". Range Control will be notified of all cease fires that will exceed 30 minutes. At the completion of firing the RNOIC will request a "cold time" and give an approximate time for clearing the facility. All times and changes of status will be recorded on the Range Acceptance/Clearance Checklist.

(9) Ensure that any operation that will take place on the range facility not listed as "standard" in Appendix A of this document has been cleared in advance by Range Control and meets requirements outlined in Chapter 12. If Range Control and the RNOIC do not both have a copy of the overlay, with an approved control number on it, in their possession, the range will not be cleared to fire.

(10) Immediately notify Range Control of all accidents and weapons/ammunition malfunctions and personally supervise the procedures for misfires, hangfires, and cook-offs.

(11) Ensure that range usage data block on the DPTMS (APH) Form 6 is completed and turned in to Range Control. Personnel strength and times of occupation must be reported even on range facilities where there was no live fire. Range usage data applies to all range facilities including the laser range, ammunition field storage sites, observation positions (OP's), forward arming and refueling points (FARP) where personnel strengths are not included as part of another range facility.

h. Range Safety Officer (RSO). Personnel assigned duties as a RSO are responsible to Range Control and the RNOIC for the safe conduct of fire and will not be assigned additional duties while performing this function. The RSO will:

(1) Ensure that weapons are at the proper firing location; only authorized ammunition, explosives, training devices, or other ordnance is used; firing settings and limits are properly set and verified; and that all weapons are inspected before firing to ensure safe operation.

(2) Check visible parts of the Impact Area, backblast area, and the "downrange area" for personnel or equipment before live firing. This will include placement of guards and/or barriers denying access to the impact and downrange areas.

(3) Prevent improper handling of ammunition, weapons, simulators, and/or explosives.

(4) Ensure that hearing protection is worn by all personnel on the range facility during live firing.

(5) Ensure that the medical support requirements of this regulation and the unit commanders directive are met before allowing live firing to commence or continue.

(6) Ensure that a safety and dud briefing is conducted for all personnel. Safe operating procedures pertaining to the weapon system and ammunition being used will be explained and all firers will be instructed on immediate action and misfire procedures. A sample dud briefing is included as Appendix D.

(7) Upon completion of firing verify weapons are clear to the RNOIC. Dud locations will be identified to Range Control personnel with number and approximate location recorded on Range Acceptance/Clearance Checklist under "REMARKS".

1-4. RANGE EQUIPMENT AND TARGETRY

a. Range Control will supply safety paddles, flags, staple guns, staples, and standard targets for range usage as shown in TC 25-8. Most standard weapons TM's will be included in the range notebook however, it is a unit responsibility to ensure that they have the appropriate manuals on hand at the range facility.

b. Units are responsible for whatever incidental materials are necessary for range usage such as score cards, flashlights, toilet paper, special targets, and trash

bags/containers for range police.

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c. The RNOIC is responsible for all equipment signed out from Range Control along with the equipment which belongs to a range facility. The unit must make arrangements to repair, replace, or pay for all damage or loss to range equipment and facilities in order to clear the installation.

d. Units must have reimbursable funds at the installation prior to performing special missions that will cause damage to installation property such as roadways or targetry. In addition, these missions must be cleared in advance by Range Control.

e. Maps are available for issue at Training Branch, Building PO1252.

f. For scheduling questions about special requests, range operations, or availability of targetry or other material, contact Range Control at 804-633-8224 or DSN 578-8410.

1-5. RANGE CONTROL HOURS OF OPERATION

a. Normal duty and firing hours coincide with the installation's controlled airspace hours of 0700-2300 hours daily. Range Control opens at 0700 hours and closes when all range and live-fire operations have ceased for the day and all equipment is accounted for and secured. Special requests for extensions of these times with appropriate justification should be submitted to: Director, DPTMS, Ft A.P. Hill, Virginia at least 30 days in advance. The Federal Aviation Administration (FAA) has the approval/disapproval of any live-fire operation times between 2300 and 0700 hours.

b. Units must contact Range Control with confirmation of their intention to fire by 0900 hrs for daytime firing and 1630 hrs for night-fire each day a facility is scheduled. If confirmation is not received, Range Control will assume the scheduled use of the facility is cancelled.

1-6. RANGE SCHEDULING

a. Request letters will be sent to Directorate of Plans, Training, Mobilization, and Security (DPTMS) according to the format outlined in Appendix E. They will be processed by date on a first come, first serve basis. When requests are incomplete for example: no weapons listed, times of firing not specified or max charge not stated, the request may be returned to the unit without action.

b. Units must schedule hours of operation accurately and return unneeded or unused facilities.

(1) It is extremely important to cancel unneeded facilities as soon as possible in order to allow other soldiers the opportunity to train. Cancellations should be promptly reported to DPTMS. Units who continually fail to cancel scheduled range facilities will be reported through command channels.

(2) Range Control must be notified of scheduling changes within one hour of the requested time or the range will revert to a first-come first-served basis. This notification is important because after daily normal duty hours of 1630, and on weekends or holidays, once all range facilities are shut down, Range Control will close.

(3) Enhanced Remoted Electronic Target System (ERETS) ranges are high demand facilities that require operator support. In order to allow for maximum utilization and required operator support, units should schedule times as closely as possible to what is actually needed. Cancellations must be made at least ten working days in advance or the installation may charge for the scheduled day and time. Units may also be charged for unused scheduled time in excess of ± 2 hours.

c. Extension of daylight firing times up to darkness in order to complete firing must be made to Range Control at least one hour prior to end of scheduled time period.

d. Night-fire must be scheduled on the day prior to utilization. Extensions to daytime firing schedules in order to night-fire will not routinely be granted and must be cleared through the Range Officer.

e. Requests for facilities involving special coordination, overlays, or approval must be made far enough in advance to allow everything to be accomplished prior to commencement of live fire.

f. Non-standard weapons, weapons systems, explosives, and ammunition, desired to be fired on range facilities must be coordinated with and approved in advance by the Range Officer before scheduling with DPTMS.

g. Scheduling conflicts are based on worst case situations. Many conflicts can be resolved by use of different weapons and/or restricting firing fans. It is

extremely important therefore, to include weapons and ammunition when submitting a request. Requests received without adequate information may not be processed until needed information is acquired. This delay could cause the loss of facilities due to the added coordination time involved. Make scheduling requests complete the first time.

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h. Trained operators are provided for Enhanced Remoted Electronic Target System (ERETS) ranges. This does not relieve the unit of RNOIC/RSO responsibilities however, it does greatly add to the operating expense of the range. When a unit's range usage requires overtime for the operators, either because of the hours requested or because more time is required than scheduled, the unit may be charged for the overtime operation. Range operation starts and ends at Range Control and includes range PMCS and shutdown checks.

i. Questions regarding range facility capabilities, should be communicated directly to Range Control telephonically at (804)-633-8224/8410 or DSN 578-8224/8410. Every effort will be made to accommodate your training needs.

1-7. RANGE OIC/RSO BRIEFINGS

Briefings are conducted at Range Control twice daily at 0900 and 1500 hours Monday thru Friday and at 1400 hours on Sundays. Briefings take approximately 30 minutes and cover small arms weapons. Briefings for indirect fire, demolitions, laser, and aviation gunnery require advanced coordination to ensure a qualified briefer is available. These briefings are in addition to the small arms brief and take an additional 15 minutes each. Certification as RNOIC/RSO remains valid for six months. Requests for special briefing times or locations can be submitted in writing or by telephone to Range Control at least five working days in advance.

1-8. BARRIERS, GATE GUARDS, AND KEY ACCESS TO THE CONTROLLED AREA/IMPACT AREA

a. The Controlled Area/Impact Area is marked by warning signs and/or locked barriers and is an extremely hazardous area. Entry into the impact area is strictly prohibited without Range Control permission and possession of a key does not in any way imply free access. Unauthorized entry is a federal offense and those apprehended may be prosecuted. All personnel wanting access must report to Range Control and coordinate the reason, destination, and routes to be used prior to their being allowed entry. Entry restrictions apply to everyone without exception.

b. Entry into the Impact Area when firing is in progress requires that personnel have in their possession a map and radio. Communications will be continuously maintained with Range Control while in the Impact Area.

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c. Entry into the Impact Area by anyone other than members of the United States uniformed military services must be cleared in advanced by the Installation Range Officer. This includes military family members and civilian personnel regardless of the reason for the visit. Information that must be provided will include the responsible military individual, how transportation will be handled, and the activity to be observed or participated in. In addition, a signed waiver of liability from the individual to the federal government and Ft A.P. Hill may be required. A blanket acceptance of liability statement signed by the sponsoring unit commander may be required.

d. All range/Impact Area gates will either be locked or guarded by the unit using the area. Guards that are not within visual and verbal distance of the range facility must have two way wire or radio communication with the range.

e. Battalion or higher units requiring access may arrange for a bulk issue of keys for internal distribution to their units. Bulk issue keys must be signed for by the Commander, SGM, Executive Officer, or the S-3 Operations Officer/NCO.

1-9. AVIATION OPERATIONS

a. Aircraft flying in support of activities on FT A.P. Hill or transitioning thru the installation's airspace will comply with APH Reg 95-1. Communications must be maintained with Range Control, Hill Advisory, a ground center having access to a telephone and capable of initiating the installation's Pre-Crash Plan, or with a "high bird" covering the operation. The "high bird" must be in contact with a ground control with access to a telephone.

b. Range Control will perform the duties of an Air Traffic Advisory during all hours of operation and when Hill Advisory is closed for aircraft operating on the installation. Aircraft operating on the installation will file a DD Form 175 local with Range Control, Hill Advisory, or be on their unit's operations flight manifest if the unit is located on FT A.P. Hill.

c. Prior permission requests (PPR's) to arrange for fuel

or VIP arrivals (O-6/GS-15 and above) can be obtained by contacting Range Control, DSN 578-8410/8303 or (804)-633-8410/8303, 24 hours in advance.

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d. Aviation support of all operations on FT A.P. Hill requires prior coordination of activities with Range Control to include scenarios, time schedules, flight paths, and proposed LZ's. The OIC or the RNOIC of the supported unit is responsible for ensuring that all required coordination and requirements are met by the supporting aviation unit.

e. All unapproved or tactical LZ's on the installation must be safety certified by the using unit according to guidance in AR 385-95, APH Reg 95-1, and FM 1-300 prior to use. This approval must be completed and the action logged in the Range Control Daily Journal prior to use of the LZ.

f. Forward arming and refueling point (FARP) operations will be in accordance with FM 10-68, 1-104, and unit SOP's. FARPs located separate from other unit operations must maintain radio or land line communication with Range Control either directly or through their parent unit. FARP operations separate from Rn 25 will be scheduled the same as other facilities and Range Control will be notified as soon as it is operational. FARPs will be inspected and cleared by Range Control just as all other range facilities.

g. Guidance for aviation gunnery involving combat and attack aircraft, both fixed and rotary wing, is covered in Chapter 10.

1-10. RANGE DETAILS

Units may be requested to supply details to assist Range Control in any of the following situations:

- a. Range operations, maintenance, and communications.
- b. Help fight range fires.
- c. Provide range police and cleanup.
- d. Range security.

1-11. DUDS

All personnel must be warned not to pick up ammunition, projectiles, flares, simulators, or any unidentified objects that may be found. All unexploded ammunition and unidentified objects should be considered a dud and extremely dangerous.

If a dud or suspected dud is found the location should be marked (no closer than 10 meters) and reported at once to Range Control.

A unit representative who knows the exact location of the suspected dud

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should remain at the site until a Range Control representative arrives. The unit representative will be released as soon as Range Control has positively identified the location. The removal of any ammunition whether training or live, is strictly prohibited and punishable under law. The RNOIC/RSO must include information on DUDS during their safety briefing to all personnel prior to utilizing any range facility on Fort A. P. Hill. A sample orientation is included as Appendix E which may be used during the briefing or as a guide in developing your own material.

1-12. HEARING HAZARDS

Commanders at all echelons are responsible for implementing the requirements set forth by AR 40-5 on hearing conservation.

Unit commanders will ensure that personnel have and use appropriate hearing protective devices. RNOIC's and RSO's will require all personnel in the vicinity of their range to use hearing protective devices during live firing. Hearing protective devices are a unit issue item.

1-13. WEATHER ALERTS/WARNING AND EMERGENCY MESSAGES

a. Wet Bulb readings of 78 degrees or higher will be transmitted over all Range Control frequencies as soon as they are received and every time they are updated.

b. Severe Storm warnings will be transmitted as soon as they are received over all Range Control frequencies and repeated every 30 minutes while the warning is in effect.

c. Emergency messages will be relayed to units as expeditiously as possible.

1-14. PRIVATELY OWNED VEHICLES (POV'S)

POV's are not allowed in the impact area where access is through locked barriers. They are only allowed in designated parking areas on fixed ranges 1 thru 18 and ranges 35, 37, and 38. Exceptions require written request to the Range Officer and approval will be on a case by case basis.

1-15. PROHIBITED ACTIVITIES

a. Possession and consumption of alcoholic beverages on the range complex.

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b. Firing of improved conventional munitions (ICM) for training or demonstration.

c. Firing of ammunition, pyrotechnics, missiles, and/or rockets over ammunition supply points (ASPs), ammunition transfer points, field ASPs, or any ammunition storage area.

d. Training with live M-14 mines.

e. Firing of depleted Uranium (DU) ammunition.

1-16. BLACKOUT DRIVE AREAS AND REQUIREMENTS

a. Blackout Drive will be used when inside the Impact Area, on South Range Road beginning at Range Corner where North and South Range Road separate, and from range 6 to range 10 on north range road when night fire is being conducted.

b. Blackout Drive road marches on North Range Road will be coordinated with Range Control. The unit is responsible for providing necessary road guards and manpower.

c. In any emergency situation, service drive may be used.

d. Units may request from Range Control, permission to use service drive in a blackout area for normal operations. Approval will be contingent upon other unit training in progress at the time. Requests should be made the day of use and not in advance.

1-17. BIVOUAC ON RANGE FACILITIES

a. Units desiring to bivouac on range facilities must include that information in their request letter.

b. When signing for a range facility the RNOIC needs to confirm the units bivouac intentions and after arriving on

site, call back a six digit grid location to Range Control.

c. Units bivouacking anywhere on the range complex are required to maintain two way communications with Range Control on frequency FM 32.00 until released by Range Control at the end of the firing day. The unit will come back up on the air at 0700 hours the next morning when Range Control opens. With Range Control concurrence, landline or commo through their parent unit will satisfy the monitoring requirement.

1-18. ROAD NETWORK, TANK TRAILS, AND VEHICLE OPERATIONS

a. It is suggested that the tank trail network be used as much as possible for tactical convoy and is recommended as a primary route for travel wherever it exists.

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b. The boundary tank trail system is being expanded as resources are available. Presently on the Range Complex side of the installation it exists from Range Corner north to RN 14, south to RN 33, and a section has been constructed from RN 19 to Goldman's Corner. Track vehicles may use the hard surfaced roadways and bridges on North Range Road past RN 14 and again past Goldman's Corner. On South Range Road once past RN 33, the main road itself becomes the tank trail. All internal impact area roads and trails are considered part of the tank trail system.

c. The main deficiencies to the tank trail system are the lack of a permanent crossing for White's Lake which cuts South Range Road before reaching RN 26P; R14 to R19, and the lack of a complete external road network on the northeast side of the reservation from Goldman's Corner that would connect with Ranges 24, 25, and 26.

d. Bridge weight classifications will be observed.

e. In order to promote safety and training, South Range Road is closed to civilian traffic after 1800 hours daily.

f. Speed Limits:

- | | |
|--|-----------|
| (1) Tank trails | - 30 MPH. |
| (2) Convoys | - 25 MPH. |
| (3) Hardtop roads | - as |
| posted. | |
| (4) Passing troops or joggers in formation | -10MPH. |
| (5) Blackout or night-aided | - 5 MPH. |

g. Vehicle movement in the Impact Area:

(1) The front and rear vehicles of a road march will have communications with each other and the unit will have communications with Range Control either directly or through their controlling organization.

(2) All vehicles in or around bivouac sites will be ground guided and the guide will use a flashlight during the hours of darkness.

(3) Vehicles backed in or around a bivouac site will have both front and rear guides.

(4) Track vehicles on firing ranges not involved in tactical maneuvers will be led by a ground guide.

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1-19. BICYCLING, MARCHING, PATROLLING, JOGGING, AND OTHER FOOT TRAFFIC ON THE IMPACT AREA SIDE OF THE INSTALLATION

a. Bicycle traffic is governed by the same requirements as vehicular traffic and is restricted to hard surfaced roads. Headphones or anything that impairs normal hearing will not be worn while riding bicycles.

b. Tactical patrols are expected to vacate the road area when passed by vehicular traffic.

c. Foot marches will have priority and right of way over vehicular traffic. They will be coordinated with Range Control and conducted in accordance with FM 21-18. In accordance with APH POLICY LETTER 385-13-95, all vehicle traffic approaching troops in formation will slow to 10 mph. Maximum use should be made of tank trails and routes other than hard surfaced roads. Road guards equipped with safety vests will be stationed front, rear, and road side flank of the column. Flashlights will be used from dusk till dawn.

d. Jogging in formations of more than five will be conducted in accordance with paragraph c above. Individual joggers and groups of five or less will use the left side of the road facing traffic and will form a single file when passed by vehicle traffic from either direction. All vehicle traffic approaching individual or formation runners will slow to 10 mph. Headphones or anything that impairs normal hearing will not be worn while running. All personnel running during periods of reduced visibility must meet requirements of APH POLICY LETTER 385-13-95.

1-20. NBC TRAINING

a. Units desiring to use chemical agents during firing

will only use Riot Control Agents (RCA). Chemical use in training should be included in the scheduling request.

b. The use of RCA's in training is limited to CS, CSX, CS-1, CS-2, and CR. Minimum safe distances for RCA's used in training will be 500 meters from the nearest heavily traveled road or inhabited area and 1000 meters from the installation boundary. Range Control will be notified immediately of any RCA drifting off the installation.

c. The RNOIC or RSO for any range facility employing chemical agents will be NBC qualified or the unit NBC NCO will be assigned as an additional RSO during the time chemical agents are used. Range Control personnel will be briefed on the NBC operation and provided a copy of the schedule of events.

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1-21. NIGHT FIRE

Ranges 8, 9, and 38 are equipped with "blink light" systems to meet night fire requirements. Ranges 3 and 34 are an Enhanced Remoted Electronic Target System (ERETS) equipped range with muzzle-flash simulator for night fire. Night fire and method of illumination on any other range facility is by approval of the Range Officer.

1-22. CHECK FIRE/CEASE FIRE

a. Any individual who observes a condition which makes firing dangerous will promptly command "Cease Fire" and additionally alert that area by waving arms overhead in a crossing manner. An alternate method such as whistles or star clusters will be used for night fire and all personnel will be briefed on day and night cease fire procedures.

b. When a unit will be in a non-firing status for 30 minutes or more, Range Control will be notified and the range facility will be placed on administrative check fire.

1-23. MOWING, DIGGING, AND CONSTRUCTION ON THE RANGE COMPLEX

a. Mowing or any modification to range facilities must be requested thru and approved by Range Control.

b. There will be no digging of foxholes, construction of fortifications, berms, tank traps, or other earth modifications on the Fort A.P. Hill range complex without the approval of the Post Range Officer. Any excavations will be back filled prior to the range or training area being cleared.

1-24. RANGE FIRES

a. It is the responsibility of all personnel to exercise care and caution in the prevention of loss of life and destruction of government property by fire. Anyone observing a fire on the Range Complex will immediately notify Range Control on any Range Control frequency or any means available.

If Range Control is not in operation call 911 from a military phone or (804) 633-8267 from a civilian or cellular phone.

b. Because all range roads and trails are also part of the firebreak system, they will not be blocked without Range Control permission. Approved barricades will be removed before the unit leaves the area. Range Control will notify the PMO and Fire Department of roads closed due to training, the planned duration of the closure, and when the roads are again serviceable.

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c. Range Control will work closely with the Forestry Section to monitor and control areas where ordnance is used that could potentially start range fires. They will continue to improve fire breaks around all areas necessary to support training in order to better and more safely protect forestry and wildlife.

d. All controlled burning of wooded areas will be accomplished under the guidance of the Forester in coordination with Range Control.

e. In the event a unit starts a fire, the RNOIC will immediately notify Range Control.

f. When notified of a fire, Range Control will:

(1) Notify the Fire Department and immediately respond to the fire location to determine hazards involved.

(2) Coordinate and control safe entry and operation of the Fire Department and Forestry Section any time entry to the Impact Area is required for fire fighting.

g. The Fire Department and Forestry Section will respond to range fires as circumstances require:

(1) If the fire was reported by any means other than through Range Control, the Fire Department will ensure range personnel are notified. If Range Control is not open the SDO will be called and he will implement the Range Control emergency notification roster.

(2) Forestry Section will assist the Fire Department by providing personnel with fire plows, roadgraders, and other equipment needed to contain the fire within the roadway/firebreak system.

(3) Range Control personnel will assist the Fire Chief in planning routes and areas that may be used to control and fight the fire whenever it is in the Impact Area.

(4) If the fire is not in a hazardous area the Fire Department and Forestry Section may fight the fire by whatever means they deem appropriate. Range Control personnel will monitor the situation in order to alert fire fighting personnel should the fire enter a hazardous area.

(5) The Fire Chief or his representative will determine when and by what means the fire will be fought and when the operation will be terminated.

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1-25. ENVIRONMENTAL CONSIDERATIONS

a. Fixed latrines should be used whenever possible. Field latrines will be according to guidance in FM 21-10. Trenches will be hand dug not more than 5 feet in depth and filled with at least 2 feet of dirt covering all waste.

b. Field mess and kitchen sites will dispose of waste water according to guidelines in FM 21-10 provided the site is more than 100 meters from any surface body of water.

c. Solid waste will be disposed of at designated sites which will be coordinated with DPW Roads and Grounds, ext 8415. Units are responsible for the transport and proper disposal of garbage and trash. Tires will be disposed of through DS Maintenance, ext 8440.

d. Weapons cleaning material contaminated with solvent will be disposed of as hazardous waste in the drum adjacent to Range Control labeled "HAZARDOUS WASTE".

e. Vehicle and equipment washing is only allowed at designated wash points.

f. POL spills, regardless of quantity, will be immediately reported to Range Control who will in turn activate the installation's "Spill Response Plan", (Appendix F).

g. Relic hunting and the use of metal detectors is prohibited by law on the installation. Accidental discoveries

of suspected historic artifacts will be immediately reported to Range Control who will pass the information to the installation Environmental Office.

1-26. ACCIDENTS, INCIDENTS, AND WEAPONS MALFUNCTIONS

a. In all emergency situations the RNOIC/RSO will call an immediate cease fire and notify Range Control. Emergency situations include any vehicle/weapons accident, personnel injury regardless of how slight, and any weapons malfunctions.

b. When an accident or malfunction involving weapons or ammunition occurs the weapon and ammunition involved will be suspended from use. The RNOIC/RSO will immediately notify Range Control who will in turn notify the Quality Assurance Specialist (Ammunition Surveillance) (QASAS). All associated ammunition and weapons will be maintained in tact and the site preserved until released by the QASAS, Range Officer, Installation Safety Manager, or by other technically qualified personnel.

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c. When a weapon malfunction such as a jam or normal misfire occurs that does not result in damage or injury, notify Range Control and take action recommended in appropriate FM's/TM's. If "immediate action" procedures fail to correct the problem, that weapon will be set aside and Range Control notified of the malfunction.

d. If a hand grenade dud occurs on the hand grenade range the side of the range with the dud will be check fired until cleared by EOD. A hand grenade dud on any other range facility will cause operations to come to an immediate cease fire and all personnel will evacuate to 190 meters from the dud location.

e. The following procedure will be followed should an indirect fire unit fire outside their designated safety limit, receive fire, or observe fire that is obviously outside the established impact area:

(1) Call an immediate check fire and notify Range Control with the following information:

- (a) Date and time the erratic round was observed.
- (b) Extent of injury or damage.
- (c) Number of rounds observed.
- (d) Location of impact/height of burst.

(e) Observer location, name, and unit.

(2) All personnel will immediately fall in at rear of piece and ensure that all weapons, ammunition, and associated equipment remains untouched until cleared by Range Control.

(3) RNOIC's/RSO's will collect all firing data from their weapons and fire direction centers (FDC) and provide this information to Range Control when requested.

f. Required Reports. When reportable accidents, incidents, and injuries occur the Installation Range Officer may require an investigating officer be designated by the next senior commander of the unit determined to be at fault. Unit commanders will ensure DA Form 285 is received by Range Control not later than two (2) working days after the accident and reports required by AR 75-1 are properly filed. Copies of all reports and investigations involved will be provided to Range Control along with the following information:

(1) Name and rank of persons involved.

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(2) Unit.

(3) Type and description of accident/incident including weapon/ammunition type and caliber.

(4) Location by grid and range facility name.

(5) Name and telephone number of person to contact for further information.

(6) Time of incident.

(7) Cause.

1-27. CIVILIAN/INDIVIDUAL USE OF RANGE FACILITIES

The use of Fort A. P. Hill range facilities by individuals and organizations is authorized. Requirements for use are set forth in Appendix C.

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CHAPTER 2

RANGE OPERATIONS

2-1. RANGE OPERATION REQUIREMENTS

In order to live-fire on Fort A.P. Hill range facilities the following must be accomplished:

- a. Range facility scheduled in advance, listed on Range Control daily firing log, and unit in-processed installation with DPTMS.
- b. RNOIC/RSO certified by their commander, briefed, and current briefing card in their possession.
- c. RNOIC signs for and draws range facility equipment and confirms the units firing intentions to include type of ordnance and range operations.
- d. FM communications established on dedicated radio equipment and medical coverage on site.
- e. Down range secured by locked barriers or guards posted and flag is flying.
- f. Hot status requested and received from Range Control.

2-2. COMMUNICATIONS

a. The primary means of communications on the Fort A.P. Hill range complex is tactical FM. It is a unit responsibility to provide radio equipment capable of operating on the Range Control tactical communications net (FM 32.00 for ground units, FM 38.50 for aviation units). Radio assets must be planned for in advance. Some field locations may require vehicle mounted equipment or the addition of OE254/292 antennas.

b. On range facilities with telephones, Range Control can be reached either by dialing 8374 if a dial tone exists, or giving the operator the number 8374 on those phones that are mag drops. Telephones will be checked for operation upon range occupation but are an emergency back up only. They need not be monitored.

c. Standard radio procedures will be used on all Range Control Nets.

d. Range Control frequencies will not be used for internal communications.

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e. Units will respond to hourly Range Control radio checks initiated approximately 10 minutes prior to the hour. Any unit failing to hear a radio check prior to the hour will initiate a radio check with Range Control. If radio contact cannot be accomplished the RTO will notify his RNOIC/RSO and the unit will place themselves on check fire until reliable communications can be reestablished.

f. It is the responsibility of the RNOIC to establish and maintain tactical FM communications with Range Control on equipment dedicated solely for that purpose. He must additionally ensure that the radio is continuously monitored at all times the range is occupied and that radio checks initiated by Range Control are answered. Installation policy is that if after three unsuccessful attempts are made to contact any range, a Range Control representative will be dispatched to the range and it will immediately be placed on check fire. A determination will then be made by the Range Control representative as to whether the problem was equipment malfunction or a violation of the prescribed monitoring requirement. If it is an equipment malfunction the check fire will be lifted as soon as reliable and satisfactory communications are reestablished. If the problem was a violation of the monitoring requirement or dedication of equipment, the RNOIC will receive a safety violation. Additional action will be in accordance with FT A.P. Hill

Range Regulation, paragraph 2-5 "SAFETY".

g. Whenever range facilities are occupied, regardless of reason or firing status, units will maintain FM communications with Range Control. When bivouacked on site, communications will be maintained from 0700 until Range Control closes for the night and will be reestablished at 0700 hours the next and all following days while on the range facility. If the unit's next higher headquarters has communications with Range Control during the bivouac phase, direct communications with that headquarters satisfies this requirement. If a landline is readily available to the unit at the bivouac site, coordination may be made with Range Control to monitor the phone in place of radio as long as live fire is completed for the day. Failure to meet monitoring requirement is reason for loss of facility use by the unit.

2-3. MEDICAL SUPPORT

a. Commanders of units participating in any training activities outside the cantonment area of Fort A.P. Hill are responsible for adequate medical coverage of their unit.

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b. Fort A.P. Hill requires the following minimum standards during live-fire operations on range facilities or occupation and maneuver through cleared hazard areas:

(1) Qualified aidman (91B, Combat Lifesaver, or Emergency Medical Technician).

(2) First aid bag (First Aid Kit, G.P., FSN 6545-00-922-1200 or equivalent).

(3) Evacuation vehicle.

c. On station MEDEVAC coverage is provided at various times, primarily during the annual training months. Civilian MEDEVAC is available for "life or death" situations at all times through Range Control. MEDEVAC or any additional emergency support can be requested by contacting Range Control on FM 32.00, FM 38.50, or telephone number 8374 from any installation phone. The FT A.P. Hill Lois E. Wells Army Health Clinic is the evacuation point during normal duty hours Monday - Friday, 0800-1630 hours. All other times will require evacuation to the Post Fire Department at Anderson Campsite.

d. Ground ambulances dispatched for medical emergencies to the Range Complex will report to Range Control Bldg PO1253. Range Control will escort the ambulance in order to provide the shortest and fastest routing to the proper range facility.

e. Medical support calls made to Range Control will provide:

(1) Pickup location - 6 digit grid and/or range number.

(2) Number and nature of injuries.

(3) Units requesting MEDEVAC will indicate the manner in which the LZ will be marked and on order from Range Control, switch to FM 38.50 (old squelch) in order to direct the aircraft.

f. Radio calls for MEDEVAC have precedence over all other radio traffic. Once Range Control receives a call for aeromedical evacuation, all units engaged in live firing will come to a cease fire status until the MEDEVAC pickup is completed. Range Control will provide notification of a cease fire imposed due to MEDEVAC operations and when units may resume hot status.

g. The foregoing medical requirements should not in any way be interpreted as a limiting factor in the providing of medical assets on range facilities. Medical coverage is the responsibility of the unit commander and he may prescribe whatever level desired.

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2-4. HOT STATUS

Hot status is defined as anytime weapons, ammunition, or ordnance are present on a range facility. A red range flag by day supplemented by a red light during the hours of darkness will be displayed at all times during hot status.

2-5. SAFETY AND RISK ASSESSMENT

The unit commander is the principal training officer and has overall safety responsibility for his unit. The following policies and procedures are established to permit unit commanders maximum flexibility in planning, training, and realism while providing for a safe environment for personnel and equipment.

a. Safety.

(1) The RNOIC is responsible to the unit commander and has overall responsibility for the safe and efficient

operation of the range facility.

(2) The RSO will be a dedicated safety person and will be present during all live-fire operations.

(3) Additional Assistant Range Safety Officers (ARSO) may be appointed by the RNOIC to assist the RSO in managing safety on the firing line. The ARSO does not have to be a certified safety person.

(4) When multiple firing locations are used and positive control by the RNOIC and RSO cannot be maintained, additional RSO's will be appointed by the RNOIC. At least one dedicated RSO will be present at each firing location. When more than one safety officer is used the RNOIC will have communications with each location and establish a safety chain of command with one RSO being the Senior Safety Officer. Range Control must be briefed and concur on how communications and safety will be handled.

(5) Specific guidance for indirect fire safety requirements and personnel are contained in Chapter 5.

(6) The unit commander has overall responsibility for the safe operation of range facilities however his assigned RNOIC is in charge of that facility. Any conflict between the unit OIC and the designated RNOIC which cannot be resolved will be immediately referred to Range Control who is the final authority. No firing will be allowed until all problems are resolved.

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(7) Range facilities involved in safety violations will receive a verbal warning for the first violation, a thirty-minute administrative checkfire for the second violation, and the RNOIC/RSO will be relieved if a third violation occurs.

(8) RNOIC's/RSO's relieved from their range duties by the Range Officer or his designated representative must be rebriefed prior to reinstatement as a RNOIC or RSO. The penalty may also include up to a six month suspension as a RNOIC or RSO, depending on the severity of the situation. A RNOIC/RSO relieved a second time may be barred indefinitely.

(9) Multiple or serious violations of safety, established procedures, or good judgement may cause the RNOIC and/or RSO to be immediately relieved of their duties by Range Control. New qualified personnel must be assigned the RNOIC/RSO duties prior to resumption of hot status. If

qualified personnel are not readily available the range facility will be closed, policed, and cleared according to standard clearance procedures. Rescheduling is a unit responsibility. The following areas involve serious safety violations:

- (a) Lack of communications/monitoring.
 - (b) Range flag not displayed.
 - (c) RNOIC/RSO not present during firing.
 - (d) Medical coverage not to standard.
 - (e) Downrange or backblast area not clear or controlled.
 - (f) Any situation which in the opinion of the range inspector may have a serious impact on the operational safety of the range facility.
- (10) Range Control personnel are authorized onto any range facility at any time. Guards will be so instructed and advised that admittance will be granted without passwords, special clearance, or delay. Range Control personnel are the only individuals who are not the responsibility of the RNOIC/RSO.
- (11) Any Range Control representative may close a range facility for what he deems the lack of safe and correct operation of the facility.

b. Risk Assessment. Unit commanders will ensure that a risk assessment is performed on all operations their unit takes part in on FT A.P. Hill. A copy will be provided to Range Control prior to the unit being allowed on the range complex. A sample

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of the four level risk assessment matrix and instructions for its use are included as Appendix G.

2-6. RANGE CLEARANCE AND POLICE

a. Upon completion of training the RNOIC/RSO will have unit personnel conduct a thorough police and cleaning of the range facility according to the instructions in the range book. A Range Control representative will then meet with the RNOIC to clear the facility. Units will not be allowed to clear post until all areas used have been policed properly, inspected, cleared, and all equipment and keys accounted for by Range Control. If it is impossible for the inspection to

be conducted prior to unit departure or there are still outstanding discrepancies, only a "conditional clearance" from the installation will be granted. The unit will have to make firm arrangements to promptly correct their deficiencies. Units with "conditional clearances" not correcting their deficiencies within thirty days will be reported through their chain of command.

b. In the event a unit entering a training facility finds the area in a poor state of police, they will immediately contact Range Control. Any unit not reporting a poorly policed area accepts responsibility for policing the area before they will be allowed to clear.

c. All trash and garbage will be transported by units to the trash disposal site vic 992231. Trash sumps will not be dug on the reservation. Pit latrines will not be used for the disposal of kitchen or similar type trash. Kitchen sumps may be dug for liquid waste only.

d. Units conducting night fire will be cleared the next morning however all range keys and equipment will be turned in as soon as firing ends. Coordination will be made with Range Control as to a meeting time the next day for clearance.

e. All entrance, exit, and course routes must be policed and any damage repaired or reported to Range Control.

f. All buildings must be swept and cleaned and all power will be turned off.

g. All foxholes must be cleared and will be left uncovered for inspection. When inspection is complete the unit will replace the covers.

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h. Two tied serviceable sandbags will be maintained in front of each position. Sandbags must be neatly and uniformly stacked with end ties facing the same direction. Unserviceable sandbags will be replaced by the unit.

i. Firing lines will be policed and raked prior to clearing and all brass and firing residue turned into the ASP.

j. The terrain must be restored to its original condition except when Range Control gives permission to leave emplacements. All temporary berms, fighting positions, bunkers, and target positions must be backfilled and the

terrain contour restored.

k. Broken or unserviceable range fixtures or equipment must be repaired if possible or if not, reported to Range Control.

1. The range is considered cleared when all of the following requirements are met:

- (1) RSO verification of weapons cleared and safe.
- (2) Cold time requested and received from Range Control.
- (3) Range inspection completed by Range NCO.
- (4) Red range flag is down.
- (5) Range OIC completed utilization data on Range Acceptance/Clearance Checklist and it has been signed by a Range NCO.
- (6) The Range Acceptance/Clearance Checklist and all range equipment returned to Range Control.

m. Clearance of large units battalion size or larger may, at the request of the unit and with Range Control concurrence, be completed at the end of their training period rather than on a daily basis. This will be accomplished as follows:

- (1) A range clearance officer (RCO) in the grade of E-8 or above will be appointed by the commander of the unit.
- (2) At least 24 hours prior to clearance the RCO will meet with the Range Control NCOIC and they will compile a list of facilities to be cleared.
- (3) On the day of clearance the RCO will station himself at Range Control to coordinate and follow the clearance activities until they are completed.

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2-7. RESEARCH, DEVELOPMENT, AND SPECIAL WARFARE GROUPS

a. Units or agencies desiring to fire non-standard weapons and/or ammunition will provide the Installation Range Officer with whatever information is necessary to determine range safety requirements. This may include copies of operational, safety, and weapons/ammunition characteristics manuals or information and must be on file at Range Control prior to being cleared to fire.

b. All civilian contractors, non-government civilians, and non-US military personnel must receive permission from the Range Officer to occupy any part of the range facility. Permission is contingent on the receipt of a briefing from the Range Officer or his designated representative and signing a waiver of liability.

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CHAPTER 3

AMMUNITION AND EXPLOSIVES

3-1. GUIDANCE

Ammunition and explosive requirements are based on AR 75-1,

AR 385-62, AR 385-63, AR 385-64, TM 9-1300-206, TM 9-1300-385, FM 5-250, and field manuals for specific weapons, ammunition, and explosives.

3-2. DEFINITIONS

a. Dud. Explosive ammunition that has not been armed as intended or failed to explode after being armed.

b. Misfire. Failure of a primer, propelling charge of a round, or rocket or guided missile ignition and/or propulsion system to function wholly or in part.

c. Hangfire. An undesired delay in functioning of a firing system. A hangfire for a rocket occurs if the propellant is ignited by the firing impulse but fails to exit the launcher within the expected time (applies to HYDRA-70 2.75 rockets).

d. Incident. An unintentional or chance event considered likely to result in property damage or injury to personnel.

e. Malfunction. Failure of an ammunition item to function as expected when fired or launched, or when explosive items function under conditions that should not cause functioning. Malfunctions include hangfires, misfires, duds, abnormal functioning, and premature functioning of explosive ammunition items under normal handling, maintenance, storage, transportation, and tactical deployment. Malfunctions do not include accidents or incidents that result solely from negligence, malpractice, or situations such as vehicle accidents or fires. Malfunctions are divided into three classes, (class A, class B, and class C).

(1) Class A. Malfunctions that result in death or lost-time injury, are similar to previous malfunctions that have resulted in death or lost-time injury, are judged as having had an appreciable probability of causing death or lost-time injury, or that have adverse political implications.

(2) Class B. Malfunctions that result in damage to major equipment that cannot be repaired at unit level maintenance or result in an ammunition suspension that significantly impacts readiness or training.

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(3) Class C. Malfunctions that are neither class A or class B.

3-3. POLICY

a. All ammunition and explosives will be used for the

purpose for which it was manufactured. Any attempt of unorthodox use or to purposely make it malfunction is prohibited.

b. The use of nonstandard ammunition is prohibited unless approved by the Range Officer in advance.

c. The firing of improved conventional munitions (ICM) for training or demonstration is prohibited.

d. The firing of depleted Uranium (DU) ammunition is prohibited.

e. Live M14 mines will not be used in training.

f. Ammunition will not be indiscriminately fired or dumped to preclude return to the ASP. See Annex C "Ammunition Found On Post/Ammunition Amnesty Program" (AFOP/AAP). The exception to this policy is Smokey Sam rockets which are issued by the case of twelve. All unpacked rockets must be expended and only full, unbroken cases returned to the ASP.

g. Munitions containing phosphorous will not be purposely fired or dropped into any water body on the installation.

h. Units will not issue blank and live fire ammunition from the same building at the same time.

i. Damaged, defective, or misfired ammunition will be kept at least 50 meters from all other ammunition, equipment, and personnel. It will be repackaged and turned back in to the ASP with appropriate turn-in documents and reports.

j. Defective ammunition will not be fired. The RNOIC/RSO will report defective ammunition to Range Control who will in turn notify the QASAS. Defective ammunition typically includes, but is not limited to:

(1) A significant percentage of fixed projectiles loose in their cartridge cases.

(2) Fuzes that are loose or missing safety devices.

(3) Safety and/or arming devices found in an armed position.

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(4) Ammunition showing serious deterioration or corrosion or defects in material or workmanship.

k. Ammunition with dud and misfire rates equal to or greater than the standard given in AR 75-1 will be reported as

a malfunction. The standard is, as a general rule:

- | | | |
|-----|---|-------------|
| rds | (1) Small arms through 50 caliber | 4 rds/4000 |
| | (2) Warheads, explosive projectiles,
rockets, and grenades | 2 rds or 5% |
| | (3) Guided missiles | 1 rd |

3-4. CONTROL

Ammunition and explosives shall be under positive unit control at all times. Ordnance will be guarded at all times on the installation except when stored within the confines of the installation Ammunition Supply Point (ASP). This includes misfire or damaged ordnance.

3-5. TRANSPORTING

a. Explosives will be transported and handled under the direct supervision of competent and qualified personnel who are familiar with the applicable safety regulations. The load will never be left unattended and the vehicle will be operated with extreme care at least 5 MPH under the normal posted speed limit.

b. Vehicles involved in on-post shipments of ammunition/explosives will have a driver and assistant driver, be properly marked, equipped with at least two Class 10-BC rated portable fire extinguishers, and will not carry any other personnel. The vehicle will not be refueled while loaded except in an emergency situation.

c. Vehicles will be inspected to ensure they are in good mechanical condition and free of electrical shorts and fuel leaks.

d. Proper cushioning or dunnage will be installed between the ammunition/explosives and the metal bed of the vehicle and explosives will be secured to prevent shifting.

e. Live and inert or training ammunition/explosives should not be mixed on the same vehicle. Blasting caps will be transported separately from other explosives. They may be secured in a closed metal container and carried in the cab of the vehicle.

f. Powder increments or charges for different types of

separate loading cannons will not be carried on the same vehicle. Example: Powder charges for 8-inch and 155MM howitzers will not be carried together on a vehicle.

g. White phosphorous ammunition will not be carried on the same vehicle as other ammunition. An attached trailer can be used.

h. If a fire occurs on a vehicle transporting ammunition/explosives:

(1) Try to stop away from any populated area and stop traffic in both directions. Warn vehicle drivers and all personnel to keep at least 4,000 feet away from the fire.

(2) Inform emergency response personnel the cargo is explosive.

(3) If the fire involves only the engine, cab, chassis, or tires attempt to extinguish it with the fire extinguishers, water, or anything available. Do not attempt to extinguish burning explosives or ammunition. Once the fire spreads to the bed of the truck or the cargo, stop fighting the fire and immediately evacuate to a distance of at least 4,000 feet.

3-6. FIELD STORAGE

a. Field storage areas will be coordinated through Range Control. The site will be scheduled with DPTMS and will be expected to maintain two way communications with Range Control as long as it is in operation.

b. Major stacks of stored ammunition on the Range Complex will be a minimum of 380 meters from all other quantities of ammunition, explosives, and flammables or vehicle, helicopter, and personnel locations.

c. White Phosphorous ammunition in field storage sites will not be stored with or closer than 100 meters to any other ammunition, explosives, or flammables.

d. Armed combat equipment such as attack helicopters and self propelled (SP) artillery weapons will not be parked at the end of a days operation with explosives and/or ammunition on board. It will be off loaded unless special permission is requested from Range Control and all additional requirements for distance separation and security can be met to Range Control's satisfaction according to Table 4, AR 385-64.

3-7. SAFETY

a. Ammunition stacks will be protected from the elements, including direct rays of the sun, with air circulation provided.

b. Unpackaged ammunition at the firing line will be limited to the minimum number of rounds needed for efficient firing of the exercise.

c. Personnel participating in exercises which include the firing of aerial pyrotechnics such as Smokey Sam rockets or Smokey Guns will wear individual protective equipment to include helmet and flak vest.

d. Smoking is prohibited within 20 meters of firing pads, ammunition or ready storage sites, and weapons assembly sites. Furthermore, the possession of matches or any flame producing device while working with or transporting propellants or explosives is prohibited.

e. Ammunition storage or handling sites will not be within 70 meters of troop concentrations.

3-8. OVERHEAD FIRE

Only ammunition lots listed in TB 9-1300-385-1 as cleared for overhead fire will be used for flanking and overhead fire. The standard for field artillery is ammunition cleared for overhead fire. Verification of ammunition is a Unit Commander, RNOIC, and RSO responsibility. The RNOIC request for "HOT STATUS" is his verification to Range Control that the appropriate checks have been made. Range Control must be notified in advance if the ammunition to be used is not cleared.

3-9. MALFUNCTIONS

a. In the event of a misfire, hangfire, or other class C malfunction the RNOIC/RSO will supervise the unit Officers/NCOs who perform the actions prescribed in applicable FMs/TMs. Range Control will be immediately notified of the situation and again when it is resolved.

b. For Class A or B malfunctions the RNOIC/RSO will:

(1) Immediately suspend firing and notify Range Control.

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(2) Ensure that the weapon, ammunition, explosives, and all components involved including fragments are carefully preserved in the position and at the location occupied at the time of the incident. Nothing will be touched or disturbed until released by the Range Officer or QASAS after a complete investigation is performed.

(3) The RNOIC will ensure that all available information is collected and promptly passed on to Range Control for early determination of the cause and timely action to prevent similar malfunctions.

(4) Continue exercise/problem only after clearance has been granted by the Range Officer or his designated representative.

c. The Range Officer or his designated representative will:

(1) Immediately contact the Installation Safety Officer, extension 8268 and the Quality Assurance Specialist (Ammunition Surveillance) (QASAS), extension 8803 and relay all known information.

(2) With the assistance of the PMO, take control of the site and all material and residue associated with the incident as soon as possible after notification.

(3) Assist the QASAS and post safety officer in completing initial and follow on reports as required by AR 75-1 and AR 385-40.

3-10. HELICOPTER OPERATIONS

a. Requirements in this section are aviation specific and in addition to those directed by other parts of this chapter.

b. Administrative, utility, cargo, and non-loaded combat helicopters will not be parked closer than 100 meters from loaded combat helicopters and/or ready ammunition sites on the Range Complex.

c. During active aerial range operations the separation of unarmed aircraft parking areas from combat aircraft parking areas and their ready ammunition storage facilities and ammunition and explosives cargo areas will be considered a unit function and handled according to the unit SOP. When range operations cease for the day the standard minimum distances will again apply.

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d. Approach and departure zones for helicopters to field helipads on any Range Complex facility will be routed so as to prevent them from passing over ammunition and explosives contained at the facility.

3-11. AMMUNITION FOUND ON POST (AFOP)/AMMUNITION AMNESTY PROGRAM (AAP)

a. AFOP and AAP will be handled in accordance with guidance prescribed in Appendix C.

b. Briefings from page 3 of Appendix C will be accomplished as prescribed.

CHAPTER 4

DIRECT FIRE

4-1. GENERAL

a. Firing will not be permitted until communications have been established, medical coverage meets requirements, the RNOIC and RSO are present, the red range flag is flying, and all prescribed safety and firing requirements have been met.

b. Live-fire range facilities will have, as a minimum, one RNOIC and one RSO on site during all live-fire.

c. Fixed range facilities will be inspected by Range Control personnel for fired shell casings, packing material, clips, bandoleers, and serviceability and accountability of range equipment. All static firing lines will be raked, sandbags uniformly positioned, and after the range inspection, all foxhole covers replaced. Target sheds, towers, and latrines will be swept and cleaned with trash policed and properly disposed of. Trash bags and toilet paper are a unit responsibility.

d. Unit commanders will ensure that M16 rifles assigned to left hand shooters have been modified by the attachment of the M16 brass deflector.

e. On electrical ranges target mechanisms will be left in the "up" position.

f. Staple guns and staples, where required, will be issued at Range Control.

g. Target cloth, pasters, and paste for known distance (KD) targets will be supplied by Range Control.

h. Standard targets for zero and qualification are provided by Range Control. Other type targets need to be coordinated with Range Control by providing FSN, quantity desired, and training requirement. Need, funding, and time constraints will determine whether they can be provided or if the unit will have to do the procurement.

i. The following ranges are equipped with PA systems: Ranges 1, 2, 3, 4, 5, 8, 9, 14, 32, 34, 35, 37, and 38. A range inspector finding the equipment abused, such as the use of excessive volume, can issue the range a safety violation

and in instances of damage, the RNOIC can be held liable for repair costs.

4-1

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j. Anytime there is snow or ice on electrical targets the using unit is responsible for sweeping the targets clean prior to turning the electrical power on. The RNOIC will accompany a Range NCO to check on the targets and ensure that they move freely prior to operation.

4-2. AMMUNITION

a. Ammunition will be handled according to guidance in Chapter 3.

b. Ammunition to be fired will not be removed from sealed containers any earlier than is necessary to prepare it for firing, which includes inspection and maintenance.

c. Ammunition will be protected from adverse weather to include the direct rays of the sun.

d. Ammunition will always be under the positive control of unit personnel.

4-3. HAND GRENADES

a. Personnel handling or throwing casualty producing hand grenades or who are within 150 meters will wear protective helmets.

b. Once the safety pin has been pulled the grenade will, on command, be thrown. Do not attempt to reinsert the safety pin or tape the handle.

c. Before live hand grenade training may begin all personnel must have successfully completed practice hand grenade training and display the knowledge and proficiency required for safe operation.

d. Hand grenade duds:

(1) If a dud round occurs call an immediate check fire and notify Range Control.

(2) Personnel within 150 meters of the area containing the dud grenade will immediately take cover. Personnel may be evacuated from the side of the range with the dud to the rear of the safety wall and with Range Control permission, training may continue on the side without the dud round.

(3) The area will be secured until released by Range Control or EOD personnel. No one will go down range or within 150M of the dud round.

(4) The RNOIC/RSO will ensure all personnel are briefed on these procedures prior to initiating live-fire.

4-4. ANTI-TANK ROCKETS

a. Before firing, the appropriate danger zone to the rear of the launcher will be cleared of personnel, equipment, and heavy foliage.

b. All back blast areas are doubled when temperatures are below freezing.

c. Shoulder launched rockets will have all loading, preparation for firing, and unloading accomplished only on the firing line with the muzzle pointed downrange.

d. 3.5 inch Rocket:

(1) At temperatures of 70 degrees Fahrenheit and above, firing personnel will wear protective goggles.

(2) At temperatures below 70 degrees Fahrenheit, firing personnel will wear their field protective masks.

e. Rockets will not be fired over the head of troops.

4-5. RECOILLESS WEAPONS

a. Personnel will not stand or have any portion of their body directly behind the rifle while ammunition is in the chamber during opening or closing of the breech block.

b. All loose material including expended cartridges will be kept out of the backblast area.

c. Recoilless weapons will not be fired from inside buildings or within 50 meters of a vertical or near vertical backstop.

d. Recoilless weapons will not be fired over the head of troops.

CHAPTER 5

INDIRECT FIRE

5-1. GENERAL:

a. The Fort A.P. Hill indirect fire impact area and range complex consists of over 32,000 acres and 500 miles of roads and trails. Unit training potential is additionally enhanced by the installation's ability to provide multiple target areas and observer locations that allow large shifts between targets, platoon engagements, direct-fire, live-fire hip shoots, and raids which meet mission and doctrine requirements.

b. Personnel acting as RNOIC/RSO must be familiar with this directive and ensure the guidelines are followed by all personnel. The RNOIC/RSO will have a separate Indirect Fire briefing in addition to the standard RNOIC/RSO briefing. All items required for normal range operations outlined in the standard briefing apply.

c. Minimum requirements for indirect fire safety personnel:

(1) RNOIC for the firing unit.

(2) RSO dedicated for safety at each firing position. Split unit operations require a separate RSO for each position.

d. Special safety requirements for indirect fire used in support of maneuver forces conducting live-fire exercises are covered in Chapter 12.

e. Only the ammunition needed for a fire mission will be removed from its container. Final protective fires (FPF), Time-on-target (TOT), and other dedicated ammunition may be prepared ahead of time according to unit SOP but must be covered and protected at all times to prevent ignition from sparks, excess heat from the direct rays of the sun, etc.

f. Altering fuzes is prohibited.

g. Forward Observers (FO) will have a copy of the safety limits, must be able to observe the rounds impact, and will

maintain record of fire for each mission.

h. Rounds will not be fired that impact less than 800 meters from unprotected personnel without Range Control permission. Units must ensure that observer locations are, as directed in

AR 385-63, outside the prescribed surface danger areas A, B, or C of their target areas. Personnel safety guidance to be used during live fire exercises is in Chapter 12.

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i. Troops will only ride in designated seats on the M110 Howitzers and will not ride exposed on top of the M577 track vehicle.

j. Whenever firing points are occupied, regardless of firing status, they will fly their red flag and maintain communications with Range Control. Direct communication is required during "HOT" status. If the unit is not in a firing status and their next higher headquarters has established communications with Range Control direct communications thru that headquarters satisfies the requirement. Units bivouacking on site will re-initiate radio contact with Range Control at 0700 every day they remain on the range complex. Units will maintain communications with Range Control at all times while on the range complex to include convoy movements.

k. Two means to determine direction are required prior to live-firing. Artillery will use two aiming circles and it is recommended that at least one of the instruments used with mortar sections be an aiming circle. The two means must be declinated and agree within 10 mils.

l. At least one weapon must be within 100 meters of the survey marker. The aiming circle may be considered a weapon in meeting this requirement.

m. Each time the guns are emplaced, the first round fired will be at a target close to the center of the safety box. Range Control will be notified with first round information, (ie "first round observed safe" as soon as the observer reports).

n. Units with survey capabilities:

(1) May further extend or relocate firing positions to suite their requirements.

(2) May fire from anywhere on the Impact Area side of Rt 301 provided they properly coordinate for usage of the area.

(3) Will provide safety overlays to Range Control for all position changes made under paragraph items (1) and (2) above and the locations and/or modifications will be verified and approved by Range Control prior to live-fire.

o. Firing will not be conducted during limited visibility when round impacts cannot be observed unless radar is being used. When radar is being used a FO is still required at the Observation Point (OP) to confirm the impact by sound in case of radar malfunction.

5-2

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p. Before clearance to fire is requested a "safety T" will be prepared showing deflections, minimum and maximum elevations, minimum fuze setting for time fuzes, and applicable firing point. A separate "safety T" will be prepared for each charge to be fired. The "safety T" must be updated after registration and when new meteorological data is received. The "safety T" must reflect the current safety diagram. All safety officers and firing battery supervisors will have a "safety T" with them during firing.

q. It is the RNOIC's responsibility to ensure that a correct safety diagram is on a chart in the fire direction center and each firing piece has a "safety T" available. The officer responsible for the operation of the Fire Direction Center (FDC) will have the safety card data showing on the firing charts and entered in the computer as appropriate .

r. Hip Shoots:

(1) Dry shoots may be conducted anywhere the unit has scheduled to operate and do not require an overlay.

(2) Live shoots must be from surveyed positions or any position meeting the requirements of paragraph n above, that are scheduled and have approved safety data. All standard safety requirements apply.

s. Shell Illuminating, White Phosphorous and Smoke will not be fired without Range Control permission when winds exceed 15 knots.

t. Supervision of Safety Procedures for Misfires. When a weapon fails to fire, personnel must follow specific procedures outlined in appropriate FM, TM, and unit SOP for the type weapon and ammunition being fired. The Field Artillery Executive Officer and the Mortar Platoon Leader must know and follow standard misfire procedures to safely resolve the situation. The RNOIC is responsible for overseeing the safe and proper application of these procedures. Range

Control will be immediately notified by the RNOIC/RSO whenever any type misfire occurs. Weapons/ammunition malfunctions will be handled according to guidance in Chapter 3.

u. While firing mortar and field artillery, all piece settings will remain as last announced until a subsequent command is given by the FDC.

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v. Indirect Firing:

(1) It is the unit's responsibility to contact Range Control far enough in advance of the firing date to ensure overlays can be approved or to coordinate for approval of hand carried overlays at Range Control. Approved overlays will have a control number assigned that must be given as part of the RNOIC request to go hot.

(2) Firing will be conducted so as to have all rounds impact within limits shown in current Fort A.P. Hill Trig/Overlay Manual. For positions not listed in the Trig/Overlay Manual, safety overlays will be required from the unit and must be approved by Range Control prior to live firing.

(3) Units who inadvertently shoot out of their prescribed safety fan will immediately put themselves on "cease fire freeze" and contact Range Control.

w. Excess propellant:

(1) Will not be transported.

(2) Mortar units will store excess propellant in a wood or metal box at least 25 meters outside the mortar pit or vehicle position. Prior to clearing the firing position it will be disposed of in accordance with procedures outlined in FM 23-90.

(3) Field Artillery units will remove excess propellant to a position 30 to 40 feet from the nearest weapon or ammunition. Prior to clearing the firing position it will be disposed of in according with procedures outlined in TC 6-50.

x. All range gates will either be locked or guarded. It is the responsibility of individuals using range gates to lock the gates behind them. Units desiring free access while

conducting tests or exercises may coordinate with Range Control to leave gates unlocked. At sites where access must be controlled, the unit will be tasked with providing guards who will be instructed to prohibit the entrance of unauthorized vehicles or personnel.

y. Impact Area buffer zones and target area definitions:

(1) Buffer zones are computed by adding either areas A or B and 8 or 12 "Probable Errors" (PE) depending on direction of fire and troop positioning. Targets in the buffer zone will not be engaged. The buffer zone provides an outside border to the target area.

(2) Target areas are where targets may be engaged and is ringed on the outside by the buffer zone.

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z. Standard airspace clearance for firing at Fort A.P. Hill is 5000 feet above ground level (AGL). In order to conduct firing with a maximum ordnance (Max. Ord) in excess of 5000 feet AGL a Controlled Firing Area (CFA) must be put in place. A twenty-four hour advance notice of firing must be received from the unit to allow the installation to initiate the CFA.

(1) General: Controlled firing areas are established to contain activities which, if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft.

The controlled firing area shall be used for those activities which are either of short duration or of such a nature that they could be immediately suspended on notice that such activity might endanger nonparticipating aircraft.

(2) Altitudes: R-6601's maximum altitude is 5000' AGL. Hence, the designated altitude of the CFA extends vertically from 5001' to 11000' inclusive. The highest level of operational use is 10,000' with the remaining 1000 feet as a buffer zone.

(3) Execution: The following requirements must all be met for utilization of the Controlled Firing Area:

(a) The cloud ceiling shall be at least 1500 feet above the highest altitude in use within the CFA and projectiles will not enter any cloud formation.

(b) Visibility shall be sufficient to maintain visual surveillance of the CFA and a panoramic distance of five nautical miles.

(c) The unit shall designate a Safety Officer with binoculars, who shall be responsible for the surveillance of

the CFA and five nautical panoramic miles therefrom.

(d) Ground observers with direct communications with the Safety Officer shall be established at critical observation points to report aircraft approaching the CFA so that the hazardous activities can be discontinued.

5-2. FIELD ARTILLERY:

a. The RNOIC may be the unit commander or his command safety certified direct representative. The RNOIC is responsible for all aspects of safety in the firing unit and at the assigned firing position.

b. The RNOIC for field artillery will be a commissioned officer.

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c. The RSO duties for field artillery units are normally performed by the Battery Executive Officer. The RSO may however, be a command safety certified E6 or above.

d. Ammunition:

(1) It will be understood that all ammunition fired is cleared for overhead fire and not restricted or suspended. Range Control must be notified in advance of firing, anytime ammunition to be used is not cleared for overhead fire so arrangements can be made to control access to area D.

(2) Verification of ammunition is a Unit Commander, RNOIC, and RSO responsibility. The RNOIC request for "hot status" is his verification to Range Control that all ammunition has been cleared for overhead fire.

(3) Improved Conventional Munitions (ICM) ammunition will not be fired on Fort A.P. Hill.

e. Units desiring to high angle fire must notify Range Control of their intentions at least 24 hours in advance of firing.

f. Direct fire, "Killer Junior", and the use of Shell Beehive will be specified in the request for range facilities. Designated locations cleared for these type firings are listed below:

	<u>DIRECT FIRE</u>	<u>BEEHIVE/KILLER</u>
<u>JUNIOR</u>		
105/155	Ranges 19, 21, 24, 25G,	Ranges 19, 21,
24,	and 33	25G, and

8" Ranges 21, 24, 25G, and 33

g. Self-propelled howitzers will be safety taped outside the turret IAW TC 6-50 and towed howitzers will use safety stakes. Before firing the RSO will compare the XO's Minimum Quadrant Elevation (Min QE) with the minimum quadrant on the "safety T" and the highest of the two will be used.

5-3. MORTARS:

a. The CFA will automatically be activated by Range Control for all mortar firing.

b. At no time will mortars fire over troops or equipment. Flanking fire will be approved in advance by Range Control and handled according to guidance in Chapter 12.

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c. An "M" designator following a standard location indicates mortar usage of a Range, Demolition Site (Demo Site), Firing Point (FP), or OP.

d. A record will be kept of all duds, with the number and location reported to Range Control. If the number of duds in the same lot exceeds 5%, cease firing that lot and report the lot number to Range Control.

e. Misfires will be handled according to FM, TM, and unit SOP procedures. If still unable to fire the round replace safety pins, repackage the round in its original container, and return it to the ASP:

(1) If unable to replace safety pin, keeping the fuze pointed up, gently move the round a safe distance downrange (at least 50M). Place the round on the ground in such a way that the fuze is maintained in a vertical position (fuze up) and call Range Control for disposition.

(2) If you have a hung round that you are unable to remove from the barrel do not try to force it out. Carry the barrel facing down-range, a safe distance (at least 50M) away from all troops and equipment; lay it on the ground pointing down-range and report it to Range Control.

5-4. DUTIES OF THE RANGE SAFETY OFFICER (RSO): The RSO will as a minimum:

a. Verify the safety diagram and safety cards are on hand and correct for the unit, time, and place. The RSO will

compare safety data with the FDO and maintain a copy of each section's safety data. He will verify the "Safety T" for each section is accurate and in the possession of the section chief.

b. Verify the lay of the weapons with a properly declinated check instrument.

c. Verify correct firing position location, referred deflection, positioning of collimator and/or aiming posts, XO's Min QE, ammunition to be fired, and all other necessary items and procedures are accomplished prior to live firing.

d. Ensure that prefire safety checks are properly performed on each weapon and that ammunition lots are separated to avoid firing of mixed lots.

e. Verify in the weapon log book that a borescope has been performed within the required time period for that weapon.

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f. Visually check for parallel lay and supervise and check the emplacement of safety aids such as stakes, tape, etc.

g. Verify that range clearance has been obtained.

h. Ensure that all required and normal safety checks are performed and complied with so that all rounds impact in the designated area. On the spot corrections will be made and the XO immediately informed of the situation.

i. Supervise the safe and proper burning of all unused propellant increments or charges after firing is completed at each position.

5-5. DECLINATION INFORMATION:

a. Aiming circles must be declinated prior to use. The declination station is located on North Range Road 100 meters north of Range 10. The station is marked by a 30 cm x 30 cm concrete monument set 6 cm above the ground with a 105 mm brass casing stamped, "Dec Sta 1".

b. Mortar units with compasses will declinate them using the Fort A.P. Hill map and the FM 23-92 procedures.

c. Declination azimuth marks (Az Mk) are as follows:

(1) Az Mk #1 is a steel pipe extending 1.2 meters

above ground and 90 meters from the station. Azimuth (Grid) 89o 41' 34.28": Azimuth (MILS) 1594.54 Mils.

(2) Az Mk #2 is also a 1.2 meter high steel pipe 220 meters from the station. Azimuth (Grid) 07o 09' 49.28": Azimuth (MILS) 0127.35 Mils.

(3) Az Mk #3 is a 1.2 meter high steel pipe 166 meters from the station. Azimuth (Grid) 263o 32' 17.98": Azimuth (MILS) 4685.13 Mils.

(4) Az Mk #4 is a range flag pole (Range 10) 129 meters from the station. Azimuth (Grid) 192o 53' 21.98": Azimuth (MILS) 3429.15 Mils.

d. Known declination constant is 6280 mils.

5-8

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5-6. BOUNDARIES OF THE TWO MAIN IMPACT AREAS:

a. Upper Zion:

Clockwise from	Broadus Intersection
98551556	
Follow road to	Road Junction
98781660	
Follow road to	Road Junction
99541688	
Follow road to	Road Junction
99521769	
Follow road to	Road Junction
99171835	
Follow road to	Road Junction
00731875	
Follow road to	Road Junction
00761866	
Follow road to	Road Junction
01651861	
Follow road to	Road Junction
02491724	
Follow road to Penny Corner	Road Junction
03801671	
Follow road to Upper Zion	Road Junction
03181524	
Follow road to	Road Junction
03561519	

Follow road to	Road Junction
03601364	
Follow road to	Road Junction
03151327	
Follow road to	Road Bend
02421286	
Follow road to	Road Junction
02361232	
Follow road to	Road Junction
01851215	
Follow road to	Road Junction
00941323	
Follow road to	Road Junction
00101310	
Follow road to	Road Junction
99061362	
Follow road to Start Point	Broaddus Intersection
98551556	

b. Daniel:

Clockwise from	Road Junction
06301676	
Follow road to	Road Junction
08801775	
Follow road to Naulakla	Road Junction
08671703	
Follow road to	Road Junction
09161683	
Follow road to	Road Junction
09401567	
Follow road to	Road Junction
08871455	
Follow road to	Road Junction
07491490	
Follow road to	Road Junction
07381480	
Follow road to	Road Junction
06091543	
Follow road to Start Point	Road Junction
06301676	

c. Upper Zion impact area contains the buffer zone inside the designated boundaries and must be considered in the construction of safety data.

d. Daniel impact area has the buffer zone outside the designated boundaries, therefore safety limits may extend to the boundary.

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5-7. OBSERVATION POINTS (OP's):

a. Locations and Descriptions:

NUMBER	FEATURE	IMPACT AREA	GRID
OP 1 01851234	Berm	Upper Zion	
OP 2 02271288	Berm	Upper Zion	
OP 3 01141369	High Ground	Upper Zion	
OP 4 01801357	Hill Top	Upper Zion	
OP 5 02181260	Wood Tower	Upper Zion	
OP 6 00211808	Berm	Mortar Lane	
OP 7 00821779	Ridge Top	Mortar Lane	
OP 8 08671643	Berm	Daniel	
OP 9 08501499	Wood Tower	Daniel	
OP 10 094158	Wood Tower	Daniel	

b. OP's have three basic requirements for use:

(1) All targets must plot a minimum of 800 meters from the OP.

(2) The OP for mortars must be completely outside the mortar SDZ.

(3) Range Control must approve use of OP's prior to occupation.

c. OP's 3, 4, 6, 7, and 9 require special coordination with Range Control to verify weapons to fire, access routes, and safety fans.

d. All observation posts on Fort A.P. Hill may be jointly used for observation or observation and firing by units without special coordination. Sole usage of an OP will only occur at Range Control's discretion.

e. OP's 3, 4, 6, 7, and 8 are more tactical locations and even though extra effort is required for their use, the benefits to training include close in, tactical, and realistic observation positions.

5-8. DIRECT AND INDIRECT FIRING POSITIONS. Current direct and indirect firing positions for mortar and field artillery are listed in Appendix A.

5-10

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5-9. SPECIAL INFORMATION:

a. Scheduling conflicts for field artillery are based on ammunition cleared for overhead fire. Conflicts corresponding to ammunition not cleared for overhead fire will be determined on a case by case basis.

b. Indirect Fire Positions. Firing positions are continually being upgraded, moved, and added in order to provide the most tactical and realistic training possible. The goal is to locate positions not visible from main roads, that do not cause roads to be closed, and that provide a reasonable amount of cover and concealment. The greatest deterrent to realistic training is the mindset that "this is where we have always put the guns" or "this is how we do it at Camp Swampy." Check grid coordinates of both FP's and OP's before assuming you know the location and what it looks like.

c. Observation Posts.

(1) OP locations have been added and upgraded. Three new wooden tower OP's have been added to the range complex. They are located in the general vicinity of the old OP 9 and 10 sites and between OP1 and OP2 (see App A, page A-8, OP's 5, 9, and 10).

(2) Some OP's require special coordination but offer tactical and realistic training. Observer to target distances may be as close as 800 meters and they are normal terrain features rather than berms and towers. The effort expended to do a good recon and work out the administrative requirements ahead of time will pay dividends in "training as we fight."

d. Impact Areas.

(1) The two main impact areas of Daniel and Upper Zion are continually being modified and upgraded as funds and assets are available. Units can assist in the efforts to make the impact areas more usable by shifting targets from mission to mission and using the limits of the given fans. Partially obscured targets are more tactical and realistic targets than a hulk in the middle of a 200 acre blown out area. Additionally, OP 6 and 7 allow observation of impact areas

that are commonly overlooked, particularly as mortar target areas.

5-11

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(2) Additional indirect fire impact areas for mortars are included as part of RN 11, RN 19, RN 21, RN 24, and RN 33. Each range has an OP and an impact area which does not conflict with the direct fire utilization of the range. The listed impact areas may be fired on from any firing point with an approved safety diagram that can range the impact area. Impact Area locations and boundaries are shown below:

<u>Range 19 clockwise from</u>	Road Junction
03832190	
Follow road to	Road Junction
04702260	
Follow road to	Grid Line Intersection
05002232	
Follow Grid Line South to	Grid Intersection
05002000	
Follow Grid Line West to	Grid Intersection
04002000	
Follow Grid Line North to	Road Intersection
04002090	
Follow road to	Start Point Grid
04702260	

<u>Range 21 clockwise from</u>	Road Junction
06122045	
Follow road South to	Road Junction
05801862	
Follow road West to	Road Junction
04901915	
Follow road North to	Start Point Grid
06122045	

<u>Range 24 clockwise from</u>	Grid and Road
10001910	
Follow Grid Line South to	Grid and Road
10001810	
Follow road West to	Road Junction
08821775	
Follow road North to	Road Junction
08801852	
Follow road to	Start Grid

10001910

<u>Range 33 clockwise from</u>	Road Intersection
99801530	
Direct to	Road Intersection
00951322	
Follow road West to	Road Junction
00101310	
Follow road to	Road Junction
99071362	
Follow road to	Road Junction
97831315	Direct to Road at
97751333	
Follow road to	Road Junction
98821407	
Follow road to	Road Junction
98921453	
Follow road to	Start Grid
99801530	

OP6 center grid 001176 and a 500 meter radius.

OP7 center grid 014171 and a 500 meter radius.

(3) Special restrictions.

(a) Safety fans must meet minimum safe distance requirements for OP's and direct fire locations.

(b) Buffer zones are external to the listed boundaries.

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CHAPTER 6

TANK GUNNERY

6-1. GENERAL

a. This chapter prescribes specific requirements for firing tanks, M551, and CEV-mounted weapons on Fort A.P. Hill.

b. As always, unit commanders are responsible for safety during all phases of firing. The commander will select a weapons system qualified commissioned or warrant officer as the overall Tank Range Officer In Charge (RNOIC).

c. Each separate firing location such as RN 33, OP 1, and OP 2 will require a dedicated Range Safety Officer (RSO) who is weapon system qualified.

d. The RNOIC and all position RSO's will have direct communications with each other and the RNOIC will have dedicated communications with Range Control.

e. The individual Tank Commanders (TC's) are responsible for the safe firing and operation of their tanks.

f. Once a vehicle begins its battle run and passes the start fire line all weapons are considered loaded and ready to fire.

g. Laser operations will be conducted in accordance with Chapter 9 of this regulation.

h. Tanks engaged in tactical training will open laser ports only while actually maneuvering on the approved course and only with appropriate filters installed.

6-2. TANK RANGE OIC

a. The RNOIC must have an approved safety overlay from Range Control as outlined in Chapter 12 of this regulation. It must be in his possession, on the range, with a control number which will be used when requesting "HOT" status from Range Control.

b. Prior to requesting a hot time, the RNOIC will verify:

(1) Surface danger zones and all required firing data.

(2) Ammunition to be fired.

(3) Target locations.

(4) Firing time limits.

6-1

APH Reg 350-2 (1 Feb 96)

6-3. DESCRIPTION OF FACILITIES AND CAPABILITIES FOR FIRING TANKS

a. Tank firing normally involves a combination of RN 33, OP 1, OP 2, several small arms impact areas, and the interconnecting trail network.

b. Targetry is stationary hard targets or stationary medium tank lifters.

c. Up to a modified Table VIII and all machinegun engagement distances can be made available. There are presently no moving targets for either main gun or machinegun engagement.

d. Ammunition dock is located on RN 33.

e. The three main firing locations have latrines, bivouac sites, and tank trail connections to the main vehicle holding site.

6-4. DESIGNATION OF FIRING STATUS

a. During daylight and good visibility tanks, M551's, and CEV's will display status flags.

b. At night and during periods of reduced visibility lights will be displayed indicating vehicle status.

c. Flag and light sets are a unit responsibility.

d. Color of marking and description of status is as follows:

<u>Color</u>	<u>Status</u>
(1) Red weapons the target	Tank engaged in firing, must be pointed at area.
(2) Green ammunition stowed.	All tank weapons are clear and elevated. Any live in the tank is properly
(3) Yellow	Tank has malfunction. Yellow is used only in conjunction with red or green.
(4) Red and green the firing	Tank is preparing to fire or crew is performing a non- exercise. Weapons are clear but not elevated.

6-2

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(5) Red and yellow clear target	Tank has a malfunction or misfire. Weapons are not and are pointed at the area.
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(6) Green and yellow Tank has a malfunction. All weapons are clear.

d. When laser ports are open, tanks will display the same flags or lights as if firing live ammunition.

6-5. SAFETY

a. Targets will not be engaged at elevations greater than five degrees (89 mils). The following precautions will be taken to ensure safe firing:

(1) TC's will ensure that all weapons are pointed toward the impact area and always at five degrees or less elevation.

(2) Non-stabilized main tank armament will not be fired on the move.

b. Units that wish to move vehicles uploaded with ammunition must inspect the bores of all weapons to include main guns, coaxial machine guns, and small arms when departing a live-fire range. Uploaded vehicles will display a green flag.

c. When crossing main hardtop roads the unit commander will ensure that two personnel are dispatched as road guards to stop on-coming traffic. One road guard will be stationed at least 100 meters each direction from the tank trail crossing.

GUIDED MISSILE FIRING
(TOW/DRAGON)

7-1. GENERAL

a. This chapter prescribes general and specific safety precautions necessary for firing TOW and DRAGON guided missiles by personnel in training, practice, and tests in ground and aerial applications. Guidance is in accordance with AR 385-62, AR 385-63, FM 23-34, FM 1-140, and TC 23-24 which contain complete and detailed information pertaining to firing the weapon systems. RNOICs and RSOs will be thoroughly familiar, and in compliance with AR 385-62, AR 385-63, all applicable FM's and TM's, and this directive before attempting the firing of guided missiles on Fort A.P. Hill ranges.

b. Only personnel who have been trained and qualified with inert or loaded components, simulated or actual propellants, and inert or loaded complete rounds will be allowed to participate in service firings and in combat firing exercises.

c. Precautions covering specific types of material, items, or components are given in the applicable weapon systems manuals and will be strictly followed.

7-2. SAFETY

The following general safety precautions for the firing of guided missiles will be observed:

a. Before firing TOW or DRAGON guided missiles the entire surface danger area will be cleared of all non-mission essential personnel.

b. Surface Danger Zones (SDZ) will be determined and defined in conjunction with Range Control prior to firing guided missiles. The SDZ for missiles is composed of a firing area, target area, impact area, danger areas surrounding these locations, and a backblast area. Distance X of the SDZ will be based on the maximum ballistic range for the weapon system since there is no provision for command destruct. Dimensions and/or means for determining dimensions are given in AR 385-62, Chapter 6, TRADOC letter dated 30 September 1986, Subject: "Basic TOW Missile Surface Danger Zone", and AR 385-63, Chapter 16.

c. Smoking is prohibited within 50 feet of firing pads, ready storage sites, or assembly sites. The possession of matches or flame producing devices are further prohibited in these areas.

d. Ground fired missiles will not be fired from within buildings or within 100 meters of a vertical or near vertical backstop.

e. TOW and DRAGON missiles will not be fired from any position which would allow the guidance wire to contact electrical power lines, electrified target locations, or any source of power that would be hazardous to the control of the weapon or the firing personnel.

f. A suitably equipped ambulance and two medical aidmen will be available for all guided missile firings with the exception of any periods where MEDEVAC is on station. When MEDEVAC is available, standard medical coverage for range firing will be considered adequate.

g. Firing of TOW or DRAGON guided missiles over personnel or material objects in training or target practice is prohibited. This prohibition includes the entire Surface Danger Zone (SDZ).

h. In addition to the standard briefing given by the RNOIC/RSO, all personnel will be briefed that looking through the tracker at the sun, illumination flares, or other bright lights could result in serious eye damage.

i. Ground fired missiles in training will not exceed ± 20 degrees from the horizontal plane.

j. Guided missiles will not be fired for target practice at manned targets or targets towed by manned vehicles.

7-3. TOW SPECIFIC FIRING CONDITIONS

a. Only those personnel actively engaged in firing and controlling TOW missiles as specified in appropriate FM's and TM's will be permitted in the SDZ. The unit commander, with Range Control concurrence, may allow mission essential personnel directly associated with, but not actively engaged in the fire mission, to be located within area H in protected enclosures or behind earthen berms.

b. Personnel will neither stand nor permit any part of their body to be directly behind or in front of the TOW launcher while a missile is in the launch tube.

c. All missiles should be tested using the missile test set as part of the overall system pre-fire checks. This will identify the majority of missiles with a potential for operational failures.

d. High Explosive Warhead.

(1) Area H of the SDZ is a circular sector to the rear of the launch position established as a buffer zone to protect personnel from high velocity fragments and missile debris resulting from an "eject only" event. Area H extends to a distance of 3200 meters from the launch position and must be cleared of all non-mission essential personnel.

(2) Firing positions are Range 21 with a 1200 meter range and TOW berm 2 at grid 024151 with a 1300 meter range.

e. Inert Warhead.

(1) Area H is not required for the inert warheads or high explosive warheads equipped with an enhanced missile ordnance inhibiting circuit (EMOIC).

(2) Ground fired TOW missiles require a backblast area cleared of all equipment and personnel 75 meters to the rear of the launcher forming a 90 degree arc from the point of firing, divided by the gun target line.

(3) Backblast area for aerial firings of inert warheads requires 100 meters for a hover of 50ft above ground level (AGL) and 200 meters for a hover over 50ft AGL.

(4) Inert warhead TOW weapons may be fired at any location that meets the 75 meter backblast requirement and the standard downrange distance X. Suggested firing locations are TOW berm 1; OP's 2, 3, 4, 7, 8; and Ranges 19, 21, 24, and 33.

7-4. DRAGON SPECIFIC FIRING CONDITIONS

a. Only those personnel actively engaged in firing and control of Dragon guided missiles as specified by appropriate field manuals or technical manuals will be permitted in the surface danger zone at the time of firing. DRAGON backblast area for all training applications extends 50 meters to the rear of the launcher and forms a 90 degree danger area. It will be kept clear of all non-operational personnel and equipment.

b. Personnel within 50 meters of the firing position will wear flak vest, helmet, eye protection, and hearing protection.

c. Personnel will never stand or permit any portion of their bodies to be directly behind or in front of the launcher when the tracker and missile are mated.

d. All missiles should be tested using the missile test

set prior to missile firing.

7-3

APH Reg 350-2 (1 Feb 96)

7-5. MISFIRES, HANGFIRES, AND MALFUNCTIONS

a. Misfires, hangfires, and malfunctions will be handled by the using unit in accordance with established procedures outlined in weapons/ammunition FM's, TM's, unit SOP, and Chapter 3 of this regulation. In all situations, Range Control will be immediately notified.

b. Procedures to be followed in case of failure to fire, until the cause of failure has been determined or the system has been rendered safe:

(1) Keep the launcher directed to a safe field of fire and all personnel clear of the trajectory and path of motor exhaust.

(2) Wait the prescribed minimum safety interval as directed by the appropriate TM/FM or 30 minutes, whichever is longer, before approaching the missile.

c. If any of the firing equipment, tracking equipment, guidance equipment, safety systems equipment, or components malfunction or do not function properly during preparation for firing or during the firing sequence, operations will be suspended and the missile will not be fired until the equipment is repaired and functioning properly in accordance with the appropriate FM's/TM's.

d. If any lot of guided missiles or components thereof has malfunctioned in such a way that further use of that lot will probably result in injury to personnel or damage to property, the particular lot involved will be suspended from use. This suspension will be made by the unit commander, RNOIC, or senior safety officer and immediately reported to Range Control. The material involved in the malfunction and any evidence such as components or fragments of the missile involved will be carefully preserved until disposition is directed by Range Control.

7-6. ANTITANK WEAPONS EFFECT SIGNATURE SIMULATOR (ATWESS)

a. The appropriate SDZ will be used to determine the safe limits of fire.

b. ATWESS devices must never be armed until ready to fire as a sudden jolt could cause the device to function.

c. The ATWESS cartridge will not be cut, opened, or misused in any way other than what is specifically allowed in the appropriate FM/TM.

CHAPTER 8

EXPLOSIVES AND DEMOLITIONS

8-1. GENERAL

a. Basic safety procedures prescribed in AR 385-63, FM 5-250, TM 9-1300-206, TM 9-1375-200, and this regulation will be adhered to at all times. Specific publications which reference safe handling, operational procedures, and precautions peculiar to ordnance being used must also be on the range facility and available for use by the RNOIC/RSO.

b. Personnel acting as RNOIC/RSO will have a separate Explosives and Demolitions briefing in addition to the standard RNOIC/RSO briefing. All items required for normal range operations outlined in the basic RNOIC/RSO briefing apply.

c. Requests for targetry such as silhouettes, target vehicles, metal, etc., will be filled within the capabilities of Range Control. Target procurement and movement to the demolition site may require unit assistance and funding. Requests for this support should be included on the scheduling letter and followed up telephonically to Range Control at least one week prior use.

d. Roads and trails will not be cratered, blown, or blocked without permission from Range Control. Permission will normally be contingent upon the unit's capability to repair the damage at the completion of their training.

e. Range Control will be notified ten minutes prior to any single, multiple, or combined detonation in excess of 50 lbs.

8-2. DEMOLITION SITE SCHEDULING

Scheduled Demolition Sites that conflict with other live-fire training may be changed by Range Control in order to allow other soldiers to train. When scheduling, and in order to provide for your requirements should a change occur, the following must be provided in your scheduling letter:

- a. Type charges i.e. shape, cratering, Bangalore, etc.
- b. Maximum charge to be fired in lbs TNT.
- c. Special training requirements or targets needed such

as trees for cutting, vehicles, etc. (if open area is all that is required show "None").

d. In the event your Demo Site is changed, the RNOIC will be informed of the new location when he signs for the facility.

8-1

APH Reg 350-2 (1 Feb 96)

8-3. SAFETY

a. Safety procedures used in demolition training will be in accordance with those outlined in FM 5-250.

b. General Safety Guidelines.

(1) Responsibility for preparing, placing, or firing of charges will not be divided. One individual will be responsible for the supervision of all phases of the demolition mission.

(2) Do not use blasting caps underground.

(3) Ensure all personnel are accounted for prior to detonating a charge.

(4) Give "FIRE IN THE HOLE" warning three times prior to initiating demolitions.

(5) The use of any explosive for other than its intended purpose is not allowed and training involving field expedient demolitions must be approved by the Range Officer.

(6) All demolition training operations will be discontinued during or on the approach of an electrical storm.

(7) Commercial fireworks will not be handled, stored, or used in any way by military personnel on Fort A.P. Hill.

(8) All cratering charges will be dual primed with detonating cord. Blasting caps will not be placed underground.

(9) When firing cratering charges, shaped charges, bangalore torpedoes, and mine-clearing snakes all personnel will wear protective helmets and hearing protection in addition to observing safe distances listed in para 13 below.

(10) When firing shaped charges personnel will be at least 300 meters from the detonation and in defilade or at least 100 meters from the detonation in a missile proof shelter.

(11) When firing bangalore torpedoes, personnel will

evacuate at least 500 meters from the point of detonation, 200 meters if a defilade position is available, or 100 meters if in a missile proof shelter.

(12) For missile proof shelters, units may construct field expedient bunkers, bring ballistic box shelters, or use military vehicles such as the family of armored personnel carriers (APC's). Range Control must be advised in advance and approve the shelter or vehicle prior to actual use.

8-2

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(13) Safe distances for bare charges and charges on targets are shown in FM 5-250 tables 6-2 and 6-3. A general guide for surface charge evacuation distance is:

- | | |
|----------------------|---------------|
| (a) Less than 27 lbs | - 300 meters. |
| (b) 28 - 125 lbs | - 500 meters. |
| (c) 126 - 300 lbs | - 700 meters. |

(14) It is a unit responsibility to ensure that all explosive charges, simulators, and pyrotechnics used during their training are properly detonated. All emplacements including misfires and unexploded ordnance will be blown in place prior to the unit clearing the area.

c. Non-electric.

(1) Never store blasting caps with explosives or carry them loose.

(2) Use only M2 crimpers for all crimping operations.

d. Electric.

(1) Do not remove short-circuiting shunt or un-shunt the lead wires unless testing or connecting the cap.

(2) Electrically initiated operations will not be performed in training within 200 meters of energized power transmission lines.

(3) Demolition training areas will be controlled to prevent entry of portable transmitting equipment within 5 meters minimum and in all instances in order to comply with distances shown in Table 18-2 of AR 385-63.

8-4. MISFIRE PROCEDURES

a. Misfire procedures will be in accordance with FM 5-250 and appropriate weapons TM.

b. Immediately notify Range Control of the misfire.

c. Never leave the area of the misfire unsecured or attempt to move or disarm a misfire.

d. Never abandon misfired explosives - they are the unit's responsibility. EOD will not respond to a misfire request. If the unit cannot adequately handle a misfire, they do not belong on the range complex.

8-3

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e. Notify Range Control when the misfire has been cleared.

f. Non-electric Misfires.

(1) After attempting to fire the charge, wait at least 30 minutes plus the time remaining on the secondary before investigating the problem.

(2) The soldier placing the charge should be the one who checks it and corrects any problems.

(3) To clear above ground misfires, use a primed 1 lb charge placed next to the misfire. Do this for each misfired charge or charge separated from the firing circuit that contains a blasting cap. Do not move scattered charges containing blasting caps - blow them in place. Do the same for charges primed with detonating cord.

(4) For underground charges, carefully dig to within one foot of the charge and place a primed 2 lb charge on top or to the side and detonate the new charge.

g. Electric Misfires.

(1) Immediately attempt to fire twice more and if unsuccessful, use a secondary system.

(2) Check to ensure wire connections are tight, if loose - tighten and again attempt to fire the charge.

(3) Disconnect the blasting machine or power source and test the blasting circuit. If the circuit tests good change blasting machines or power source and attempt to fire the charge.

(4) If a charge does not fire and only one initiation system is employed, disconnect the blasting machine, shunt the wires, and immediately investigate. When employing more than one electrical system or a combination electrical/non-electrical system, wait 30 minutes before inspecting.

(5) If you suspect the electrical cap is the problem, do not attempt to remove or handle it. Place a primed 1 lb charge next to the misfired charge and detonate the new charge.

h. Detonating Cord.

(1) If detonating cord fails to function, attach a new cap to the remaining cord and detonate the new cap. Treat branch lines in the same manner.

8-4

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(2) If the detonating cord leading to the charge detonates but fails to explode the charge, do not investigate until all signs of burning have stopped. Wait 30 minutes if the charge is underground. Re-prime and attempt to detonate the charge.

(3) Scattered pieces of detonating cord that do not contain blasting caps may be collected and detonated together.

i. MICLIC misfire procedures: As a minimum, the following safety procedures will be followed:

(1) Rocket Repeated Failure to Fire.

(a) After repeated firing attempts, disconnect the blasting machine and ensure the selector switch is set to OFF. Keep all personnel protected and wait 30 minutes before proceeding with misfire procedures.

(b) After 30 minutes, remove rocket cable from receptacle number 3 and immediately secure protective cap on rocket cable.

(c) Install shunt into receptacle number 3 and continue with misfire procedures according to Safety of Use Message 105-1A "CHANGE OF MISFIRE PROCEDURES FOR LAUNCHER MINE CLEARANCE MK 155 AND ROCKET MOTOR 5-INCH MK 22.

(d) If the rocket still fails to fire and a replacement rocket is not available, the line charge will be turned back to the ASP.

(2) Linear Charge Failure to Fire.

(a) After repeated firing attempts, disconnect the blasting machine and ensure the selector switch is set to OFF.

(b) Move towing vehicle forward enough to reduce cable tension and wait 30 minutes.

(c) Check all electrical connections for proper assembly and if problems are found, correct and repeat firing procedures.

(d) If still no fire, start again with "(2)(a)" above and repeat misfire procedures.

(e) Remove linear charge electrical lead from receptacle number 2 and secure protective plug on receptacle number 2.

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(f) Remove arresting cable hook from container eye-bolt and disconnect linear charge electrical connector.

(g) Contact Range Control for permission to manually prime and fire the linear charge as prescribed below:

(1) Prepare two (2) non-electric ten (10) minute set-ups.

(2) Prepare a charge by taping two (2) blocks of C-4 together and make two (2) cap priming holes.

(3) Individually take the prepared charge and priming set-ups to the linear charge and place the prepared charge next to the linear charge. Emplace the cap ends of the priming set-ups in the prepared cap priming holes.

(4) Yell "FIRE IN THE HOLE" three times, pull the ignitors, and walking briskly, evacuate the area and call Range Control for a ten (10) minute warning on the shot.

(5) Notify Range Control when the misfire has been cleared.

8-5. MAXIMUM CHARGE (MAX CHG)

a. Maximum charge is defined as the total of any single or combined detonation set off simultaneously or with less than a 30 second interval between charges. Maximum Charge detonations must be separated by at least a 30 second interval with no more than three allowed before a fifteen minute wait is required.

b. MAX CHG allowed in training at Fort A.P. Hill depends on the Demo Site. Max Chg listed in Appendix B is what may be detonated without special approval. Approval to increase Max Chg

must be requested from the Range Officer and is contingent on unit training requirements and the availability of an area capable of handling the size charge requested.

c. Max Chgs listed for each Demo Site will be strictly adhered to unless prior approval for a change has been granted. Limits listed are in pounds (lbs) TNT and for surface detonation.

d. Max charges will be reduced by 50% at dusk with exceptions being handled on a case by case basis by Range Control on the day of firing.

8-6

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8-6. EXPLOSIVES FIRING LOG (APH FORM 5) AND EXPLOSIVE/MINE FIRING LOG (APH FORM 11)

The RNOIC will be given an Explosives Firing Log and/or an Explosive/Mine Firing Log when signing for a demolition facility. Once the RNOIC has requested and received permission to go "HOT", he will control and log every shot fired on the EXPLOSIVES FIRING LOG or the EXPLOSIVE/MINE FIRING LOG. The completed form must be turned in to Range Control before the range facility will be cleared.

8-7. TRAINING NEW PERSONNEL

Requirements for training new personnel are as follows:

a. Fire all charges electrically with the exception of specific non-electric training instruction.

b. Fire charges untamped above the ground surface.

c. Assure that not more than five trainees actually insert cap or primer in charges, supervised by one instructor.

8-8. TRANSPORTATION AND TEMPORARY RANGE STORAGE

a. Vehicles transporting explosives and units using field storage sites will comply with guidelines outlined in Chapter 3.

b. Temporary range storage of explosives in the open will contain no more than 500 lbs per pile/stack and the distance between each pile/stack will be a minimum of 45 meters. Demolition material, dynamite, black powder, and detonators will each be placed in a separate pile/stack. Temporary range storage will include those steps necessary to ensure

explosives are kept dry and protected. Dunnage and cover, as circumstances require, are unit responsibilities and stores will be guarded at all times. Further guidance will be as prescribed in Chapter 3 of this regulation, AR 385-64, FM 5-250, and TM 9-1300-206.

c. Never mix live and dummy/training explosives together. This includes transportation, storage, demonstration, or training.

8-9. DEMOLITION SITE CLEARANCE

Demolition Sites will be cleared according to requirements listed in Appendix A and Range Control instructions when "Cold Time" is requested. Final clearance is dependent on proper completion and turn in of Explosive Firing Log and/or Explosive/Mine Firing Log and Range Acceptance/Clearance Checklist.

8-7

APH Reg 350-2 (1 Feb 96)

8-10. STEEL CUTTING AND CONCRETE

a. Steel cutting is normally done using Demo Site 74 and the "Steel Cutting Pit":

(1) Charges placed on steel will not exceed 2 pounds.

(2) If charge is placed in pit, personnel will evacuate the pit to a distance of 100 meters.

(3) If charge is outside it must be at least 100 meters from the pit and personnel will evacuate into the pit.

b. Charges placed on steel or concrete objects in the open will use evacuation distances listed in para 8-3b(13) and be in defilade.

c. Charges placed on concrete should not exceed 40 pounds and should be placed on the side nearest to personnel.

d. All personnel will wear protective helmets and hearing protection.

8-11. MINES, FUSES, FIRING DEVICES, TRIP FLARES, AND SIMULATORS

a. Mines:

(1) All mines and the explosives used with them will be recorded on the EXPLOSIVES/MINE FIRING LOG.

(2) Inert mines do not contain any explosive material and do not provide a safety hazard.

(3) Practice mines and their fuses contain explosives and will always be treated as live ordnance.

(4) High explosive mines will be detonated by an electrically primed one-half pound charge placed on the pressure plate. Personnel involved will wear protective helmets, hearing protection, and will be in defilade at least 200 meters from the detonation.

b. Fuses: Antipersonnel mine fuse M605 will be assembled, armed, and disarmed in accordance with TM 9-1345-203-12.

8-8

APH Reg 350-2 (1 Feb 96)

c. Firing devices:

(1) Instructions in TM 9-1375-213-12 will be followed when installing, arming, and disarming firing devices.

(2) Firing devices and fuses will never be pointed at personnel.

(3) Standard bases containing unfired percussion caps, firing devices, and fuses will not be carried in pockets.

(4) Standard bases containing unfired percussion caps will be kept separated from firing devices and fuses until the firing device or fuse is ready to be installed in the mine or booby-trap.

(5) Camouflage of mines and booby-traps will be completed before removing the positive safety from the fuse or firing device.

d. Trip flares M48 and M49 used in training will be protected by barriers or guards to prevent personnel from approaching closer than two meters to the flare emplacement.

e. Simulators:

(1) M80 simulators will not be held when detonated nor will M1 and M2 type fuse igniters be used to ignite the M80 fuse.

(2) All procedures for safe use and handling of simulators in TM 9-1370-200 will be followed by all personnel.

(3) At no time will personnel attempt to disarm or disassemble simulators.

(4) ATOMIC SIMULATORS M142:

(a) Requests to use atomic simulators will include 8 digit grid coordinates of the proposed detonation point.

(b) M142 firing procedures and precautions are contained in TM 9-1370-207-10.

8-9

APH Reg 350-2 (1 Feb 96)

8-12. EXPLOSIVES ORDNANCE DEMOLITION (EOD)

a. Explosives Ordnance Demolition personnel training at the installation will comply with the same rules as any other training unit.

b. Explosives Ordnance Demolition teams in mission support of Fort A.P. Hill will conduct operations in accordance with appropriate EOD regulations, directives, and unit SOP's. On arrival at the installation, EOD personnel will report to Range Control for an update on the situation and will be briefed on the following post requirements:

(1) The EOD team will be escorted to the site by Range Control personnel who will provide access, area security, and provide the radio communications link to Range Control.

(2) The EOD OIC/NCOIC will fill out an inventory of the type and number of items destroyed. The list will be given to Range Control prior to leaving the installation or as soon as possible after the mission is complete.

(3) All other procedures will be normal SOP for EOD operations and/or coordinated as required with Range Control.

8-10

APH Reg 350-2 (1 Feb 96)

CHAPTER 9

LASERS

9-1. GENERAL

This chapter prescribes specific safety procedures to be followed in the use of light amplification by stimulated emission of radiation (LASER) devices on Fort A.P. Hill. Procedures, guidance, and safety directed in this chapter is in accordance with and/or in addition to that prescribed in AR 385-63, TB MED 524, AR 40-46 or appropriate laser equipment manuals. The Range OIC and Safety Officers will be thoroughly familiar with and comply with all of these directives before operating or supervising the operation of laser devices on Fort A.P. Hill.

9-2. SCHEDULING

a. Unit and organization requests for areas to perform laser operations will be determined according to training requirements and range safety capabilities. Direct telephonic coordination with Range Control is recommended prior to a written request since all laser range facilities on the installation are part of other permanent range facilities.

b. The permanent laser test facility in TA 17 and 19 will

be scheduled through DPTMS scheduling using normal procedures. This is a special test facility and not available for general use.

9-3. RESPONSIBILITIES

a. Fort A.P. Hill Range Control.

(1) Will perform a quarterly target area survey to ensure that there are no specular surfaces visible from lasing sites. Any found will be corrected. Glossy foliage, raindrops, and other natural objects are not considered specular surfaces that create ocular hazard.

(2) Will ensure that all new target material has specular surfaces removed or covered prior to being emplaced in the impact area.

(3) Will ensure that appropriate signs are in place prior to the lasing facility going hot.

9-1

APH Reg 350-2 (1 Feb 96)

b. Using Unit Commander.

(1) The lasing unit commander will select, train, and safety certify the personnel required to assist him in meeting safety requirements. On ranges where lasers will be used this will include an E7/GS-9 or above RNOIC and an E6/GS-7 or above RSO unless the laser is being used in conjunction with another facility. In that case the RNOIC, with Range Control concurrence, may elect to only provide a RSO to the lasing site.

(2) Develop a unit SOP for laser operations covering as a minimum the following criteria:

(a) A general orientation for all personnel as to what lasers are and what they do in order to provide confidence and competence in those personnel involved in laser operations.

(b) It must prescribe instruction on hazards for specific devices and personal protective measures.

(c) It must require immediate medical treatment for personnel who receive eye or other overexposure.

(d) It must outline reporting procedures for overexposure.

(e) It must require records concerning overexposure in excess of levels set forth in AR 40-46 and TB MED 524 be maintained.

c. The Laser Range OIC and Laser RSO Will:

(1) Be familiar with this regulation, the documents listed in paragraph 9-1, and the FM's and TM's applicable to the particular laser device being used.

(2) Ensure compliance with the unit SOP for laser operations and training.

(3) Do an on site survey to establish the left and right target limits ensuring that all targets are at least 10 mils below the horizon. Range Control will be provided with an overlay for approval based on the site survey with an additional 15 degree safety area identified right and left of the firing limits that will be an exclusion area. The overlay will additionally state: "All targets will be at least 10 mils below the horizon". Once approved one copy will be kept at Range Control and one will be maintained by the RNOIC/RSO at the lasing site.

9-2

APH Reg 350-2 (1 Feb 96)

(4) Establish and maintain FM radio communications with Range Control.

(5) Ensure a medical evacuation vehicle and driver is on site, laser signs are posted, and red flag is flying (daytime) or red night-light is on (night-time).

(6) Brief unit personnel who work with lasers including an explanation of laser-related hazards and safety devices.

(7) Know the azimuth and elevation limits associated with the range facility and targets being used.

(8) Visually inspect the range area for reflective surfaces immediately notifying Range Control if any are found. The RSO must verify to Range Control that the area has been inspected and found free of specular surfaces prior to receiving permission to go "HOT".

(9) Immediately stop lasing if positive control of the laser beam is lost.

(10) Ensure that individuals within the LSDZ, such as moving target operators, wear laser protective eyewear with curved protective lenses during laser firing. Eyewear must be approved for the wavelength and the laser device being fired.

(11) Establish and maintain continuous communication with personnel in the target area. Lasing will cease immediately if communication is lost and will not resume until the RNOIC is confident reliable communication has been reestablished.

(12) Ensure that the visibility level is such that all targets to be lased are clearly visible.

9-4. LASER TEST FACILITY (TA17/19)

a. Is an impact area with controlled access through Range Control.

b. Will comply with all standard range requirements.

c. Requirements for testing outside of standard procedures requires the following:

(1) The Installation Range Officer and Safety Officer must be briefed and given a written plan and risk assessment to comment on.

(2) Installation Commander approval.

9-3

APH Reg 350-2 (1 Feb 96)

9-5. AIR TO GROUND AND GROUND TO AIR LASERS

a. Will be used in controlled areas within the installation's restricted airspace (R6601) that will accommodate the required Laser Surface Danger Zone (LSDZ).

b. If used outside of R6601, will have the unit OIC address all necessary controls and safety considerations and have them approved by the Installation Range Officer and Safety Manager. A risk assessment will be prepared and submitted to Range Control and Safety for review and comments at least one week prior to the start of the operation.

c. Will have controlled airspace out to the Nominal Ocular Hazard Distance (NOHD) or a 10 mil backdrop available to contain the beam with adequate controls in place to ensure a stable platform and positive control of the laser.

d. Will have the boundaries of the LSDZ clearly marked, visible, and/or recognizable from the lasing aircraft.

e. Will have permissible minimum and maximum aircraft elevations and aircraft pitch attitude for safe use of the laser determined by the RNOIC/RSO and approved by Range Control prior to actual use of the laser device.

f. Must ensure the RNOIC or RSO have positive control of the laser device on the aircraft so that if the beam exceeds the established safety limits it is immediately terminated.

g. For sir to ground, the RSO/LRSO must over-fly target areas in a dry status to ensure no specular surfaces exist prior to live-fire target engagement.

9-6. SAFETY

a. The underlying concept of all laser range safety is to prevent intrabeam viewing by unprotected personnel. This is accomplished by the use of a standard maneuver direct fire Surface Danger Zone (SDZ). The left and right lateral limits must allow for 15 degrees left of the left most target and 15 degrees right of the right most target as a safety buffer. The Nominal Ocular Hazard Distance (NOHD) will be distance X for the laser being used or a safety backdrop of at least 10 mils below the horizon to "catch" the beam. The left and right lateral limits may also employ the 10 mil backdrop to reduce the size of the SDZ.

b. Every effort will be made to control laser device usage and access of personnel to the laser range facility.

9-4

APH Reg 350-2 (1 Feb 96)

c. If more than one type of device is used protective measures must cover all devices. For devices of the same wavelengths, the highest required optical density will be used.

d. Signs warning of laser operations will be posted at Range Control and at locations designated by Range Control prior to opening the range facility.

e. The use of magnifying daylight optical devices to observe the target during laser operation is permitted only if the LSO certifies to Range Control that the target area has been inspected and is free of all flat mirror-like surfaces. Mirror-like targets can be observed only if appropriate laser safety filters are placed in the optical train of the magnifying optics.

f. The range will always be considered "HOT" when laser devices are present even though they may not be in a firing status.

g. Laser operations that are a part of other range training, such as indirect fire observer teams for artillery or mortar units may not require a separate RNOIC. The RSO may be considered the safety officer of an external firing position as outlined in paragraph 9-3b(1).

h. Laser ports will not be opened in motor pools or cantonment areas except when maintenance is being conducted on the laser and all proper safety procedures have been followed.

i. Laser devices of any type will not be left unattended with the laser port open.

j. Laser devices will never be used to lase specular reflective surfaces.

k. Maintenance in a controlled environment may be performed with the ballistic cover removed in accordance with prescribed operating procedures.

l. Prefire checks that require operation of the laser can be made in a controlled area with the laser beam terminated by an opaque backstop. Prefire checks that do not require operation of the laser but require use of the optics can be safely made in a controlled area with the ballistic cover removed by instituting operating procedures that insure power to the laser is turned off.

9-5

APH Reg 350-2 (1 Feb 96)

m. Tactical exercises can be conducted in a controlled area with the laser cover removed by instituting procedures that insure power to the laser is turned off.

n. The laser exit port must be covered when the laser or laser-equipped vehicle is not in use, parked, traveling on range roads, or moving from one area to another and not engaged in tactical operations in a controlled environment.

o. Laser devices will not be used in a two sided force on force tactical exercise.

p. Targets must be clearly visible. If weather causes targets to be obscured from sight, they will not be lased.

CHAPTER 10

AERIAL GUNNERY

10-1. GENERAL

a. Units using aerial gunnery ranges on Fort A.P. Hill will comply with this regulation, AR 95-1, AR 385-62, AR 385-63, AR 385-64, and all applicable supplementation.

b. Personnel performing the duties of RNOIC/RSO will have a separate Aviation Gunnery briefing in addition to the standard RNOIC/RSO briefing. The RNOIC/RSO must be familiar with this directive and ensure the guidelines are followed. All items required for normal range operations outlined in the basic RNOIC/RSO briefing apply.

c. Aviation gunnery is normally performed at standard hover positions, at standard targets, and using standard

flight paths. Once RN25 is "HOT", these standard operations may be conducted without further clearance. All activity on Range 25 not listed in the packet as standard will be coordinated with and approved by Range Control according to procedures outlined in Chapter 12. An overlay covering these non-standard operations must be constructed, approved, and in the hands of the RNOIC/RSO prior to the initiation of live-fire.

d. The Range 25 Complex requires two red flags flying prior to receiving HOT status. Locations are at the external gate behind the range complex grid 097156 and the road junction of Ashcake Lane and North Range Road grid 087206.

e. Armed aircraft will generally not operate off the reservation except in the event of an emergency that dictates the most expeditious route to a safe landing area.

f. Laser operations will be conducted in accordance with Chapter 9.

g. Helicopter Specific:

(1) Rotary wing aircraft will normally execute a left turn flight pattern and fixed wing will normally use a right turn pattern on the Range 25 complex. Deviations from this guidance will be cleared with Range Control.

(2) Primary emergency safe set down areas for rotary wing aircraft are shown as hash marked areas on the aviation crash rescue map in the Range Control operations center. A current hazard map is also maintained at that location as well as at Hill Tower when it is in operation.

10-1

APH Reg 350-2 (1 Feb 96)

(3) Tube-launched Optically-tracked Wire-guided (TOW) missile operations will be conducted in accordance with Chapter 7.

(4) At this time, HELLFIRE missiles cannot be fired on the installation.

10-2. DEFINITIONS

a. Switches/Hot. Armament sub-systems are considered hot with switches on and circuit breakers in.

b. Switches/Cold. Armament sub-systems are considered cold with the master arm switch on safe or off position.

10-3. RANGE OFFICER IN CHARGE (RNOIC)

a. The Range Officer in Charge. Is the individual

overall in charge of the unit training on the aerial gunnery complex. He is responsible for the development of the maneuver and firing phases of the range operation to insure rigid compliance with applicable field manuals, range regulations, and safety guidelines. The RNOIC is responsible for all unit personnel on the range complex.

b. The RNOIC will determine how many range safety personnel are required using the following guidance:

(1) All aircraft will be under the direct positive control of the RNOIC or a RSO at all times.

(2) The number of RSO's required will be contingent on the number of firing positions used concurrently and upon the RNOIC's decision of how many safety personnel are needed to maintain positive control. Administrative activities such as aircraft entering or exiting, concurrent training, or increased overall range activity may also dictate the need for additional safety personnel.

c. The RNOIC must request and receive permission for the aviation range complex to go "HOT". He will confirm to Range Control the aerial firing points (AFP), range sectors, and operational control numbers to be used for that days firing. Once a "HOT" time is received, the RNOIC will control all operations on the Range 25 complex. Range Control will consider the entire range complex "HOT" until closed by the RNOIC at the end of the scheduled firing day. It is requested that a schedule with daily hours of actual gunnery be provided Range Control on the first day of training.

10-2

APH Reg 350-2 (1 Feb 96)

d. The RNOIC will:

(1) Ensure that unit personnel are familiar with this document, Fort A.P. Hill Memo 95-1, and have been briefed on the Fort A.P. Hill Pre-Accident Plan.

(2) Ensure all personnel are briefed on safety and operational procedures concerning malfunctions, runaway weapons, and other in-flight emergencies discussed in paragraph 10-11.

(3) Obtain both present and forecasted weather report for the period of firing.

e. Rotary wing operations, the RNOIC will:

(1) Ensure that each aircrew involved in aviation gunnery is familiar with the location of the AFP's, the right

and left magnetic limits, and the maximum range limitations. A copy of this data will be with each aircraft when using any portion of the aviation range complex. Complete information on the RN 25 complex is included in the range packet given to the RNOIC when he signs for the facility.

(2) Designate a damaged/misfire ammunition area located a safe distance away from all normal range activity.

(3) Designate an emergency pad to be used for weapons and aircraft malfunctions, ensure it remains clear, and that all personnel are informed as to its location and purpose.

(4) Upon completion of firing for any day, flight inspect the range for fires. If any fires are observed they will be reported to Range Control with approximate grid location.

(5) Ensure each aircraft has a qualified pilot for the specific aircraft and weapon system involved. Pilots and gunners are qualified when they have:

(a) Successfully completed an approved qualification course or qualification or transition training in accordance with the applicable Aircrew Training Manual for the aircraft and weapon system being fired.

(b) Demonstrated flight and weapon proficiency to a designated Instructor Pilot (IP) in the applicable aircraft and weapon system.

10-3

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(6) The RNOIC will ensure that, depending on the situation, the following is supervised by himself or the RSO:

(a) Ordnance preparation, loading and unloading of ordnance, bore sighting, and stray voltage checks on the weapons systems are done in accordance with applicable aircraft weapon system operating instructions.

(b) Firing is conducted only when the aircraft is in the proper location, oriented downrange, on course, and the weapon system is aimed within the safety limits of the target area.

10-4. COMMUNICATIONS

The RNOIC must ensure that communications are established and

maintained with Range Control on FM 38.50 at all times. Additionally, internal communications with all safety personnel and aircraft must be maintained during all live-fire operations. Live-fire on the range complex will cease immediately if commo is lost and will not resume until re-established.

10-5. MINIMUM FLYING CONDITIONS

a. For range operations rotary wing aircraft must have a minimum of 1 NM visibility and remain clear of clouds. Fixed wing aircraft must have a minimum of 3 NM visibility with a 1,000 ft ceiling. Wind limitations are as established in local flying regulations, aircraft limitations, and judgment of the RNOIC.

b. The target area and targets must be identifiable by the aircrew through the appropriate sight or sensor prior to firing. Pilots must confirm to the RNOIC or RSO, sufficient visibility exists for firing at each firing position and that the round impact is distinguishable. At anytime an inability to see the target or impact occurs a cease fire will be initiated.

10-6. NIGHT OPERATIONS

a. When operations are being conducted at night ground personnel will always carry a flashlight or wear a head lantern, ensure they are equipped with red lenses, and that the light is on when they are working in the vicinity of the aircraft.

b. Night hover firing with the Telescopic Sight Unit (TSU) may be conducted if the target can be positively identified through the TSU and the right and left limits of the target area are identifiable.

10-4

APH Reg 350-2 (1 Feb 96)

10-7. SAFETY

a. All aircraft:

(1) Armament subsystems are considered safe for range traffic pattern operations under switches cold/off conditions.

Switches cold/off does not include pulling circuit breakers which would unground the system. Refer to the appropriate TM for correct safing procedures for each weapon system.

(2) Aircraft will only commence course and/or place switches in hot status after cleared by the RNOIC/RSO

responsible for that position. Switches will be placed in cold status immediately upon completion of the mission and before weapon systems are pointed out of the safety limits for the mission.

(3) Operation and position of the arming switch is the responsibility of the instructor pilot or pilot in command.

b. Rotary wing:

(1) Aircraft must be grounded prior to any work being performed and before the aircrew enters or exits the aircraft.

(2) Armed aircraft will have weapons cleared and safe before refueling.

(3) When rockets are loaded on board, no external communications equipment will be permitted to transmit within 16 meters of the aircraft.

(4) Unit commanders will ensure that all external jettison systems are operable and explosive cartridges installed prior to arming external stores.

(5) When conducting Nap of the Earth (NOE) hover fire, the weapon systems will not be armed until arriving at the AFP and are pointed within the prescribed safety limits.

10-8. REFUELING

a. Aircraft refueling will be conducted in accordance with FM 10-68 and the appropriate operator's manual.

b. Forward Arming and Refueling Point (FARP) operations will be in accordance with guidance in Chapter 1, paragraph 1-9f.

10-5

APH Reg 350-2 (1 Feb 96)

10-9. AMMUNITION

a. Ammunition will be handled according to applicable directives and Chapter 3 of this document.

b. Field storage will additionally adhere to the following:

(1) 2.75 FFAR's will not be stacked more than five

(5) rows high.

(2) No more than sixty-five (65) 2.75 FFAR's and two (2) aircraft loads of other type ammunition will be stored at each re-arm point.

c. Damaged, defective, or misfire ammunition will be stored in a separate bunker or designated storage location at least 50 meters from equipment, landing positions, other ammunition, fuel, and personnel. Damaged, defective, and misfire ammunition will be repackaged and returned to the ASP.

d. A report of a lost round will be submitted to Range Control whenever the impact of a projectile is not observed by the firer or the observer. The report will include:

- (1) Type of round.
- (2) Launch point, AFP or grid, and azimuth fired.
- (3) Grid location of intended target.
- (4) Estimated point of impact.

10-10. HELICOPTER IN-FLIGHT EMERGENCIES

a. Aircraft experiencing an emergency will immediately contact the RNOIC stating "MAYDAY...MAYDAY" and call sign. Upon hearing a "MAYDAY" call all other aircraft will go "SWITCHES COLD", cease transmitting but continue to monitor, and land at the nearest helipad other than the predesignated emergency pad or where the emergency is in progress. The emergency aircraft will report location, nature of emergency, and ordnance on board.

b. When in-flight emergencies occur the Pilot in Command (PIC) must evaluate the situation and make the final decision on where and when he will land his aircraft. He can deviate from landing AS SOON AS POSSIBLE only when the nature of the emergency renders immediate field site landing hazardous to the crew and/or the aircraft.

10-6

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c. If an aircraft must make a forced landing within the dud area the PIC must evaluate the post-crash situation and determine whether the danger of exiting the aircraft into a live dud area outweighs the danger of remaining in the aircraft until Range Control personnel arrive at the scene.

d. If the situation requires the jettison of external

ordnance, primary locations to consider should be along main impact area roads away from targets to facilitate recovery.

e. For malfunctions other than "hot or hung ordnance" or "runaways" the system will be disarmed and the aircraft will immediately proceed to a predesignated arming pad and land with the system oriented down range.

f. Runaways will be maintained in a down range direction until stopped and/or safed.

g. When a situation occurs involving hung or hot ordnance, primarily with rockets or missiles, where there is a partial firing of the ordnance and it does not detach from the aircraft and/or cannot be placed in a "SAFE" condition:

(1) Declare "CEASE-FIRE" and keep the aircraft oriented "downrange".

(2) Once cleared by the RNOIC or RSO an attempt should be made to relocate the aircraft to a predesignated ordnance pad on the range cleared of all ordnance and personnel.

(3) If the aircraft cannot return to the pad while remaining oriented "downrange," the pilot must land in a location where he can maintain his orientation "downrange." Primary landing sites in the Impact Area will be on the main roads away from prominent targets.

(4) Personnel must wait a minimum of 30 minutes after the aircraft has landed before attempting to clear hung or hot ordnance. The RNOIC/RSO should verify the time of the incident and inform appropriate personnel.

(5) In no case will the RNOIC/RSO clear personnel or aircraft to proceed downrange until the situation is cleared.

(6) After the 30 minute time limit has elapsed an attempt can be made to SAFE the ordnance and remove it from the aircraft. If the aircraft is located in the Impact Area all movement to and from the aircraft will be done with the assistance of Range Control/EOD personnel. Safing will be done by unit armament personnel.

10-7

APH Reg 350-2 (1 Feb 96)

(7) The RNOIC can request release from checkfire once the incident is resolved and all personnel and aircraft are clear of the downrange area.

h. Should a pilot suspect he has lost communication he will immediately go "SWITCHES COLD" and attempt to contact the

RNOIC, tower, another aircraft, or Range Control using all available frequencies and radios. If unable to contact anyone the aircraft will:

(1) Continue to transmit intentions in the blind.

(2) Maintain separation from all other aircraft, climb 500 feet AGL, and execute a left traffic pattern inside the normal flow of traffic.

(3) When on final, the pilot will flash landing lights to indicate to the RNOIC/RSO that he has lost communications. Using caution, the pilot will land on an available ordnance pad and shut down.

(4) Under no circumstances will an aircraft continue downrange once it is recognized that communications have been lost.

i. If the exact location of a downed aircraft is unknown, the RNOIC will utilize other aircraft in the pattern to pinpoint the position.

j. During an emergency the RNOIC will cease all operations of non-involved aircraft. These aircraft will set down in clear areas on Range 25, proceed to the grass field at "Brandywine" vicinity 092204, or do as directed by the RNOIC.

k. Range Control will be notified immediately of any emergency situation with the following information:

(1) Location and description of the accident/incident, time of occurrence, and possible injuries.

(2) Type of aircraft and ordnance involved.

(3) Support required.

l. If personnel in the downed aircraft are known or suspected to be injured and Range Control/ EOD personnel are not immediately available, the RNOIC must exercise his own judgment in providing assistance. Rescue personnel must be informed that the downrange area is heavily duded with a variety of ammunition and great care must be taken in selecting a path to the site.

10-8

1

APH Reg 350-2 (1 Feb 96)

m. After rescue is completed the range will be kept closed and no personnel allowed downrange without Range Control permission.

n. The RNOIC will ensure that no wreckage is moved except

to facilitate removal of injured personnel.

o. When a hydraulic failure occurs that requires a running landing the following options may be considered:

(1) If adequate fuel is on board and the aircraft is armed, Quantico Marine Base has firefighting assets, ordnance knowledge, and a hard surface strip.

(2) If adequate fuel is on board and the aircraft is not armed, Davison Field at Fort Belvoir also has a hard surface strip and adequate emergency support equipment.

(3) The Fort A.P. Hill assault landing strip located on the Drop Zone has a 3950ft dirt runway, however the condition of the surface varies daily depending on weather and prior usage. Approach cautiously from the north east executing a left turn and landing from north to south.

(4) Army Airfield 1 has runway 05-23 which is a 2186ft grass strip with a fairly level surface.

p. Once the aircraft is down:

(1) Range Control will coordinate with Military Police for site security until released by Range Control.

(2) Range Control will request crash rescue, medical, and fire support as requested or determined necessary.

(3) After landing and aircraft shut down the crew should remain with the aircraft if able, and warn all personnel to remain clear of weapons systems until area is secured by MP's.

(4) The unit is responsible for the necessary personnel and equipment to safely download the aircraft.

(5) The aircraft may only be moved when released by Range Control.

10-11. FIXED WING IN-FLIGHT EMERGENCIES

Fort A.P. Hill has limited capabilities to support fixed wing aircraft emergencies. What is available is the 3950ft assault strip in Training Area 7 and the 2186ft runway 05-23 at AAF1.

10-9

APH Reg 350-2 (1 Feb 96)

10-12. RANGE 25 GUNNERY

c. A complete information packet for aviation gunnery is available at Range Control. It will be provided to the RNOIC

at his certification briefing and is additionally included in the range book for Range 25. The packet contains the latest information on the following:

(1) All aviation firing positions with left and right limits. AFP locations at this time are:

AFP1	09131510	AFP6	08771690
AFP2	09041533	AFP7	10401858
AFP3	09081561	AFP8	09541810
AFP4	08911618	AFP9	08901788
AFP5	08761675		

(2) Range 25 internal conflict List.

(3) Primary Safe Set Down Areas and landing strip locations.

(4) R6601 Helicopter Sector Map with all AFP's plotted with safety fans for the various weapons.

(5) Range 24 running fire lane starts at the road junction of Range 24 and Ashcake Lane (vic AFP9) and runs 50 meters either side of Bomb Run Road south-west to the cease fire line at the junction (vic 07121710).

(6) Range 25 Running Fire Lane is 50 meters either side of a line from grid 09391542 to 078158 on a direction of 291~. The start fire line is the forward edge of the helipad landing sites delineated by the end of the mowed area. The cease fire line is the main road running generally north south through the Daniel Impact Area and intersected by the running fire lane at grid 078158.

(7) Fixed wing target areas for BDU 33 bombs, 20MM, and 30MM guns.

(8) TOW firing positions are AFP 4 and 9.

(9) Range 25 Door Gunner Range runs on a north south line from grid 090159 to 088146, direction 017 degrees and 197 degrees with a main direction of fire of 287 degrees.

b. Fixed-wing aircraft must coordinate their weapons, flight paths, and targets with Range Control on an operation overlay according to Chapter 12 procedures. Fixed-wing aircraft must have an overlay control number before being allowed to fire.

10-10

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CHAPTER 11

AIR DEFENSE ARTILLERY

11-1. GENERAL

a. Guidance in this chapter is supplementation to chapters 5 and 14 of AR 385-63 which prescribe basic requirements for Air Defense Artillery (ADA) operations.

b. The number of personnel engaged in handling, assembling, or firing guided missiles and rockets will be kept to the minimum required to maintain efficient operations.

c. Shorting plugs and other safety devices will be removed only to conduct tests or in final preparation for firing.

11-2. CONDUCT OF FIRE AT AERIAL TARGETS

a. Personnel will not be allowed in the SDZ.

b. SDZ's will be based on full trajectory to the ground.

c. All weapons will fire from a single predesignated, on line position.

d. Firing limits will not exceed 65 degree quadrant elevation, each weapon will be staked, and the assigned safety officer will ensure that firing remains within these limits.

e. Distance X of the SDZ will always be at least the maximum range the weapon will be fired or the range corresponding to a quadrant elevation of 15 degrees, whichever is greater.

f. Radar tracking and gun control in azimuth and elevation is prohibited when manned towing aircraft are used.

g. All non-mission essential personnel and vehicles will be moved to an area at least 65 meters behind the firing line.

11-3. CONDUCT OF FIRE IN GROUND SUPPORT

a. Firing will be conducted with vehicle stationary, from preselected sites, and with all non-firing personnel on line or to the rear of the weapon.

11-1

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b. During live-fire exercises, when the vehicle is moved

the weapon will be placed at maximum elevation until stopped in the next firing position. During travel, other than an exercise, the weapon will be placed in the travel lock position, the arming connector or safe arm switch disconnected, and the weapon cleared.

c. Procedures specific to the VULCAN, M163:

(1) Only target practice (TP) ammunition will be fired.

(2) The arm safe switch will be used to control firing by the weapon safety officer. The weapon safety officer will additionally ensure the elevation and traverse limit switches are operable and adjusted at all times.

(3) The weapon system must be mechanically disenabled to fire before towing aircraft are allowed in the airspace above the SDZ.

11-4. AIRBORNE TARGETS

a. Type of targets to be used will be included in the scheduling request letter.

b. A target control officer (TCO) in the grade of E-6 or above will be assigned to assist the RNOIC/RSO. His primary duty will be the control and safety of the airborne targets.

c. Flights will take place during daylight hours unless prior coordination with Range Control has taken place at least 24 hours in advance of the mission.

d. Suitable fire fighting equipment will be readily available during all firings.

e. The TCO will have direct communication; visual, voice, radio, or field phone to the RNOIC/RSO and will have a predetermined method of alerting the RNOIC/RSO if target control is lost.

f. The RNOIC, RSO, or TCO will notify Range Control each time an aerial target is launched and again when it has landed.

g. Range Control will be notified immediately by the RNOIC if target control is lost and kept current on the status until recovery is completed. Range Control will be provided with grid to last known location, direction of flight, and flying time remaining. The RNOIC, RSO, TCO, and Range Control will jointly determine the search area and if in a known hazard area, Range Control will provide search team escorts to assist in safe maneuver through the areas.

h. The TCO will always have the target under visual observation.

i. The RNOIC will have at least two air observers that maintain constant surveillance of the airspace. They will have direct communications with the RNOIC/RSO in order to alert them in the event non-involved aircraft penetrate the airspace.

j. Ballistic Aerial Target System (BATS) will comply with the SDZ according to Chapter 5, AR 385-63.

k. BATS will not be launched when winds exceed 30 knots steady or gusts exceeding 40 knots.

l. Targets will never be launched or flown so that any part of their SDZ will be closer than 500 meters to public access areas.

m. All flights will be contained within the Fort A.P. Hill controlled airspace R6601.

n. Recovery teams will maintain communications with Range Control either directly or through the RNOIC during all recovery operations.

CHAPTER 12

LIVE-FIRE EXERCISES

12-1. GENERAL

a. This chapter prescribes policies and procedures to be followed on Fort A.P. Hill during the planning, execution, and clearing of live-fire and maneuver or combined arms live-fire exercises. It follows guidance outlined in AR 385-63.

b. Every effort will be made to allow maximum training realism during exercises within the governing safety parameters.

c. When maneuver forces use live-fire from organic or external sources they are taking part in a live-fire exercise. A combined arms live-fire exercise (CALFEX) is two or more combat arms or other services taking part in a live-fire exercise. Additionally, guidance in this chapter will apply to all activities not listed as standard in Appendix A.

d. The Installation Range Officer/NCOIC has final approval of all plans that fall under the directives of this chapter. He will be directly responsible for ensuring proper coordination and information is exchanged within Range Control, the directorate, and the command where required.

12-2. SCOPE

The guidance in this chapter applies to all situations where:

a. Live-fire and maneuver and/or combined arms are in any way involved in an operation.

b. Weapons will be used that are not normally fired from that range or location.

c. Firing positions are different than standard static positions located on the designated range facility.

d. The range facility does not have predesignated firing positions or weapons. This includes RN 18, RN 22, RN 25G and OP's where direct fire will be used.

12-3. SAFETY

Ultimate responsibility for troop safety, as always, belongs to the unit commander. To assist him in carrying out this responsibility the following directives concerning live-fire exercises apply:

a. Guidance in AR 385-63 with applicable supplementation from weapons FM's, training publications, and this regulation will be used to develop the safety overlay part of the operation plan.

b. Platoon or larger units involved in live-fire exercises will have an ambulance and aidman present at all times.

c. The Unit Commander will:

(1) Adequately train and familiarize his staff, subordinate commanders, and safety and controller personnel in the concept of operation, safety procedures, and applicable portions of the above listed directives prior to the conduct of the live-fire exercise.

(2) Appoint RNOIC's and RSO's as follows:

above	(a) Squad up to company	OIC - E7 or
above		RSO - E6 or
above	(b) Company up to battalion	OIC - Comm Off
		RSO - E6 or
above	(c) Battalion size of larger	OIC - 04 or
above		RSO - E7 or
above		

(3) Ensure that the RNOIC has communication with his RSO's at each of the major live-fire locations.

(4) Ensure that all crew-served gunners have fired and passed a qualification course for the weapon and at least a familiarization course with the weapon being used.

(5) Conduct rehearsals or dry run exercises for appropriate personnel prior to the live-fire exercise.

(6) Ensure the required risk assessment is properly completed and on file according to guidance in Chapter 2.

d. The unit commander/RNOIC/RSO will furnish a detailed plan to Range Control for approval. The plan will include:

(1) Written scheme of maneuver and fire support that

clearly explains what will happen, when it will happen, and all safety, command, and control measures that will be employed. The unit OPLAN may be used to meet this requirement.

12-2

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(2) A separate safety overlay will be developed showing firing fans, troop and weapon emplacements, maneuver boxes, target locations, routes of travel, and list weapons, ammunition, explosives, pyrotechnics, smoke, and chemicals to be used. For operations that involve personnel, aircraft, or equipment maneuvering through firing lanes it must clearly show how shifting or lifting of fires, and times of fire and maneuver provide positive control for safety.

(3) The safety overlay must show the safety chain of command with names and rank of the RNOIC and the RSO's.

(4) There must be a RSO at each major live-fire location. Range Safety Officers at the individual firing positions may be squad leaders and are not required to be dedicated safety positions.

(5) Once approved, the safety overlay will be given a control number and both the range facility and Range Control will have copies on hand during the operation. The RNOIC must use the safety overlay control number to obtain a "Hot Time".

12-4. PLANNING

a. A Range Control Team will be assigned the primary responsibility of planning, assistance, and support of each live-fire exercise. They will coordinate directly with the Installation Range Officer/NCOIC and the unit commander and his staff in preparing and completing all requirements necessary for the exercise. They will additionally assist the unit commander and his staff in meeting their training needs by advising on safety and range matters and use their expertise in overcoming training, safety, and range facility problems. Units conducting live-fire tactical problems involving fire and movement must have sufficient red smoke grenades for day and red star clusters for night available for control personnel to signal an emergency "CEASE FIRE".

b. It is recommended that the operation initially be planned as a realistic tactical operation based on objectives and terrain. Once weapons positions, objectives, and maneuver are laid out, adjustments required for safety can easily be accomplished. This allows the least amount of modification

for safety and the maximum amount of tactical realism for training. Restrictions on maneuver and weapons employment will only be applied when surface danger zones and safety require their use. With proper planning all training objectives and requirements will be accomplished.

12-3

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c. Surface danger zones must be briefed to leaders and safety personnel before starting the exercise. Leaders, safety personnel, and Range Control personnel will do a terrain walk and survey the physical limits of the maneuver area and surface danger zones prior to conduct of the operation.

d. Maneuver in dedicated dud impact areas is not permitted. Maneuver in buffer areas, SDZ's, and temporary impact areas is permitted when approved by Range Control and done in compliance with AR 385-63. Maps of Fort A.P. Hill are not accurate in their designation of these areas. Exact limits of exclusion areas and dud impact areas will be provided by Range Control.

e. Coordination lines for shifting of fires, lifting of fires, and maneuver must be identified on the ground by both maneuver and support elements prior to the start of live-fire.

12-5. FIRING PRECAUTIONS

a. Flanking fire.

(1) Indirect fire weapons will not impact closer than Area A plus 100 meters for mortars or area A plus 200 meters for artillery.

(2) Small arms will maintain a 15 degree safety angle between the direction of fire and all maneuvering personnel. In addition, all rounds will impact at least 50 meters beyond the lead individual or element.

(3) Individual weapons will not be fired in the automatic mode during flanking fire.

(4) Machineguns will be tripod mounted and will have traversing stops provided to maintain the safety angle between the limit of fire and maneuvering troops.

(5) Controllers for both the flanking fire positions and maneuver elements must pre-identify limits of fire and maneuver.

(6) Indirect fire weapons will register prior to delivering flanking fire or a final protective fire (FPF).

b. Overhead fire.

(1) The Installation Range Officer must approve overhead fire of unprotected troops or troops with positive protection. The closest target will be Area B of the SDZ plus 500 meters. Approval is contingent on the operational plan meeting the safety requirements of this document and AR 385-63.

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(2) Weapons authorized for overhead fire are field artillery and tripod mounted machineguns 50 caliber or smaller.

(3) Weapons positions will be predetermined and only ammunition approved for overhead fire will be used.

(4) Direct fire weapons, including machineguns, will be fired from positions that provide an unobstructed field of fire.

(5) Overhead fire of unprotected troops from aircraft or moving vehicles is prohibited.

(6) All overhead fire will be observed by a designated safety officer with positive control over the firing positions.

(7) Both firing positions and troops must be visible for direct fire weapons. Troops and targets must be visible for indirect fire.

(8) Indirect overhead fire:

(a) Will register with at least two rounds prior to delivering close supporting fires.

(b) Will only fire high explosive (HE) rounds that impact forward of the lead troops by Area B plus 500 meters.

(c) If VT fuzes are used, their minimum arming time plus 5.5 seconds will establish the near edge of the impact area.

(9) Machinegun overhead fire:

(a) Will be ground tripod mounted or fixed mounted on vehicles with positive stops to limit traverse and elevation.

(b) Will not be cross-fired and rounds must impact a

minimum of 50 meters beyond the forward line of troops.

(c) Rate of fire will not exceed 70 rounds/minute for 5.56mm and 7.62mm or 40 rounds/minute for 50 caliber machinegun.

(d) Will not impact behind troops or be delivered at targets at a range greater than 800 meters nor less than 400 meters from the gun.

(e) All members of the gun crew must have safety limits identified prior to engagement.

(f) Weapons will be test fired to verify the effectiveness of the positive traverse and depression stops.

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c. Hand Grenades.

(1) A RSO will directly supervise and control the throwing of hand grenades.

(2) Hand grenades will be thrown into dud impact areas or Range Control approved areas, free of obstructions, at targets at least 25 meters from the nearest troops.

(3) All personnel within 150 meters of the target will wear protective helmets and be in defilade with a minimum of 20 inches of earth or sandbag protection.

(4) Individual throwers will be at least 5 meters apart and throw at the same target at the same time.

(5) Grenades can be issued when other live ammunition is issued but will not be carried on web equipment while individuals are transported in vehicles or aircraft.

d. Air Support. Standard guidance for aviation gunnery outlined in Chapter 10 applies with the following additions:

(1) There must be positive identification of target and troop locations by the aircraft and ground controllers.

(2) Direct communications must be established and maintained between either the forward air controller, scout aircraft, high bird, or attacking aircraft and the RNOIC/RSO on the ground. The RNOIC/RSO will have direct communications with fire support centers delivering indirect fire.

(3) Coordination of fires must be accomplished in a manner that does not permit aircraft and indirect fire in the same air corridor at the same time. Indirect fires must clear

occupied corridors by a minimum of Area B plus 500 meters for the weapon being fired.

(4) Unguided rockets will not be used if wind or wind gusts exceed 30 knots.

12-6

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CHAPTER 13

LANES

13-1. GENERAL

a. This chapter identifies and describes the live-fire lanes available for training on Fort A.P. Hill.

b. Live-Fire Lane Training consists of an infantry lane, field artillery lane, mortar lane, and combat engineer lanes.

The facilities are located on the impact area side of the installation and encompass both existing range facilities and training area lands.

c. Comprehensive guidelines and requirements for each are available from Range Control as a range packet. A general description of each facility and capabilities for use are included as a planning guide. All normal tactical alternatives are available for the unit to use in breaching obstacles, destroying targets, and killing the enemy.

d. Advance arrangements must be made with Range Control to replace, repair, or pay for the damage that occurs. The facilities must be left in serviceable condition before the unit will be cleared from the facility and the installation.

13-2. Infantry

The infantry lane combines the hard wired facilities of ranges 26S and 26P with the terrain and final objective located on range 25. Weapons allowed are all organic squad and platoon through 7.62MM including demolitions, claymore, and subcaliber LAW and AT4. 50 caliber may be used with prior coordination with Range Control. General lane description and capabilities

are listed below:

a. Start Point will be the assembly area at range 27P if a water crossing is to be included in the operation. The water crossing will involve a tactical movement to and crossing of White Lake. If a water crossing is not to be included the assembly area is at FP11. Both assembly areas will accommodate airmobile operations and include a bleacher/briefing area and fixed latrine.

b. The route of travel from the assembly area is along South Boundary Road to Range 26S where the Line of Departure (LD) is crossed and the meeting engagement occurs during the movement to contact. The target lifters associated with Range 26S are used for this engagement.

13-1

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c. The unit will fight through the Range 26S contact and proceed along the land navigation route to Range 26P. Small units will break contact when engaged by Range 26P, large units will fight through or handle the situation as they desire. The mission is to proceed through the choke point vic 089144 and to a rally point at OP8 vic 088162.

d. At the choke point a chance armor encounter with two APC's and dismounted infantry will occur. The unit will be forced east and north as they break contact and proceed toward OP8 passing a possible aerial resupply LZ located at FP43.

e. When arriving at the rally point behind OP8 a leaders recon will be performed and the final plans for the attack on the objective at Daniel's Corner will be made and issued.

f. The final objective is the command bunker, antenna, and gun emplacement surrounded by a double interconnected trench system and triple strand concertina wire.

13-3. FIELD ARTILLERY

The field artillery lane consists of a series of indirect and direct firing positions, several impact areas with associated OP's, and connected by a proliferous road network. Any impact area and any OP may be used in whatever combination the commander designs into his scenario. Hip shoots, split shoots, and airmobile operations may be included in the units plan which may also include tactical rearm and refuel. Locations for these special operations are the unit commander's decision but must be coordinated with Range Control.

a. The artillery lane starts at FP34 and is spread along

the intallation's south boundary toward Range 25. The assembly area (AA) consists of a covered bleacher/briefing area and a fixed latrine. The unit can decide how tactical this start point will be and whether or not they will initiate firing from that location.

b. Route of travel is east along the installation's south boundary. Range 33 is the first opportunity to fire after leaving the assembly area and is a possible direct fire/hip shoot location.

c. The actual routes traversed after Range 33 is at the unit commanders discretion. Additional indirect firing positions available in this area are FP's 39, 40, 13, 1, 2, 3, and 41.

d. OP's available for the Upper Zion Impact Area are 1, 2, 3, 4, and the OP5 wooden tower.

13-2

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e. Indirect firing positions available during the continued movement toward Range 25 are 14, 15, 6, 9, 11, 43, 44, 8, 46, 47, 48, 7, and 8. Direct fire may be accomplished at FP 47 and 48 on Range 25.

f. OP's available for the Daniel Impact Area are 8, and the OP9 and OP10 wooden towers.

g. Airmobile operations can be accomplished at any position large enough to handle the aircraft safely. Requirements for the use of non-standard LZ's are outlined in Chapter 1, paragraph 1-9.

h. The artillery lane ends at the After Action Review (AAR) site located at FP44 consisting of a covered bleacher/briefing area and fixed latrine.

i. The artillery lane may be run in either direction, with two firing batteries simultaneously in opposite directions, or together "leap-frogging" the same direction under battalion control.

j. A third battery may be incorporated to allow a complete battalion operation by using the firing positions on the north side of the impact area. The battalion start point assembly area would be in TA30 vic 963154.

k. North side indirect firing positions available are FP's 31, 27, 28, 26, 25, 23, 24, 16, 22, 20, 21, 17, 18, and 19 with direct fire opportunities at ranges 21 and 24.

1. OP's available for the north side are the same as those already listed for the Upper Zion and Daniel Impact Areas.

13-4. MORTAR

a. The mortar lane consists of direct and indirect firing positions capable of handling maneuver, split shoot, hip shoot, and all section or platoon mission requirements. The lane encompasses up to five separate impact areas, eight kilometers of maneuver, and five observation points. The actual length and routes of travel, positions used, OP's used, and scenario are the commander's choice.

b. The mortar lane starts at range 15 with an assembly area consisting of a covered bleacher/briefing area and fixed latrine. This is an administrative occupation in preparation for a tactical move. Airmobile insertions may start at range 14.

13-3

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c. The route of travel is the trail around and behind range 15 through to Finegan's Field and the tactical AA at mortar point (MP) 10. This is the first opportunity to fire and serves as the jump off point to the rest of the lane. The route then follows the tank trail west to Range 6, swings back east toward Range 11 and finishes on Finegan's field.

d. Indirect firing positions available are MP's 10, 7, 8, 9, 3, and 4; ranges 6 and 7; Demolition Site (DS) 79; and OP7. Direct lay can be accomplished at MP7, DS79, and OP's 6 and 7. Split and hip shoots can be done at whatever locations the unit puts in their plan and meets safety requirements.

e. OP's available for the mortar lane are 1, 2, 3, 4, 5, 6, and 7 and the wooden tower at RN11.

f. The mortar lane ends at MP9 with the AAR site consisting of a covered bleacher/briefing area and fixed latrine.

13-5. ENGINEER LANES

The engineer lanes will allow combat engineer squad through platoon size units to perform all associated ARTEP tasks. Leader validation, unit movement, obstacle construction, and obstacle breaching operations can all be performed in a tactical live-fire environment. The lanes start in an assembly area consisting of a covered bleacher/briefing area and fixed latrine and end at an after action review site also

consisting of a covered bleacher/briefing area and fixed latrine. A brief description of each lane is provided:

a. Engineer Lane 1.

(1) Engineer Lane 1 is a platoon size lane that starts in TA26 vic 082209 and is most suited to "light" units.

The area will accommodate up to a company bivouac and has sample obstacles provided to allow for unit train-up and leader validation. The AA and AAR sites may be accessed by either ground or air

(2) The unit maneuvers west to the Range 22 area where it encounters a series of obstacles that must be breached in order to get to the final objective which is a command bunker at the far end of the range. The facility also contains two personnel evacuation bunkers, one on each side of the range 100 meters from the final objective.

(3) When the bunker has been neutralized the unit then proceeds along a trail to the extraction point vic 070201 which is the AAR site. This trail has a timber bridge crossing that can also be incorporated into the scheme of maneuver.

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b. Engineer Lane 2.

(1) Engineer Lane 2 is a "light" squad size lane that starts in TA26 at the same AA site as Engineer Lane 1.

(2) The unit maneuvers east to the Range 23 area where it encounters a series of obstacles that must be breached in order to get to the final objective. The objective is a command bunker inside the woodline at the far end of the range. The facility also contains two personnel evacuation bunkers, one on each side of the range 100 meters from the objective.

(3) When the bunker has been neutralized the unit then proceeds by land navigation east to the extraction point vic 085200 which is the AAR site.

c. Engineer Lane 3.

(1) Engineer Lane 3 is a platoon size lane that starts at DS74. The area will accommodate up to a company size bivouac and is suited to "heavy" units.

(2) The unit will follow the trail network west through DS73 to DS72. At DS72 a series of obstacles will be encountered as a protective perimeter for a command bunker and

radio tower located inside the far woodline.

(3) When the objective has been neutralized the unit will reconsolidate and reorganize at the AAR site on DS72 vic 101207.

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APPENDIX A DESCRIPTION OF RANGE FACILITIES

1. Pages A-1 thru A-8 are a composite listing of the range facilities. Pages A-9 thru A-73 are the individual range facilities with a general description and standard usage.
2. The use of a range facility for other than the standard listed in this document is strictly prohibited without approval and coordination of Range Control. Non-standard usage always requires an approved overlay and control number.
3. Improper or unauthorized use of range facilities may cause immediate cease fire of the facility and the RNOIC/RSO to be relieved of their duties. All damage to range facilities caused by unauthorized use will be the offending unit's responsibility to repair, replace, or provide funding to correct. This includes, but is not limited to, damage or destruction of targetry, emplacements, grounds, equipment, and structures. The RNOIC may be held personally liable for damages.
4. Fort A.P. Hill is involved in an aggressive range modernization program. Several ranges have been or are being

upgraded to Enhanced Remoted Electronic Target System (ERETS) ranges. Range 34 (Modified Record Fire) has been completed and began operation 1 November 1995. Range 3 (SAW/M60 Transition) upgrade construction started in January 96 with a completion projection of July 96. Ranges 26S & 26P, Infantry Squad and Platoon Assault Courses, will be combined into a new Infantry Squad Battle Course (ISBC). The new complex will have four separate objectives over a 2500 meter course and will include both infantry and tank stationary and moving targets. The ISBC construction is projected to start in July 96 with a completion date sometime in early 97. Range 1 (Combat Pistol Qualification Course) and a new rifle qualification range are also scheduled to come on line in calander year 98 and 99 respectively.

5. Range facilities with an "M" designator attached as part of the name indicates that mortars may be fired from that facility or location, i.e. OP1M indicates that OP1 may be used for mortar fire.

A-1

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App A

6. A range book will be issued to the RNOIC for each listed range facility. The range book contains a copy of this regulation, detailed information on range operations, clearance procedures for the facility, and field manuals for the standard weapons used on the range. The range book's contents should be checked according to the list in the front of the book before leaving Range Control. It will be inventoried for completeness when it is turned back in. Missing manuals are the units responsibility to replace.

7. It is the unit's responsibility to ensure appropriate weapons and ammunition manuals are on site for approved non-standard range usage.

8. Ranges are generally numbered clockwise around the impact area from Range 1, Combat Pistol Qualification Course, at 975166 to Range 38, Night Fire/Squad Defensive Night Fire, at 974159. Numbers are skipped where there is no facility.

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<u>RANGE</u>	<u>LOCATION</u>	<u>PRIMARY USE</u>	<u>PRIMARY WEAPONS</u>
1	97391655	Combat Pistol Qualification Course (CPQC)	All Pistol
2	97561667	Pistol Known Distance/ Shotgun/Military Police Firearms Qualification Course (MPFQC)	All Pistol & Shotgun
3	98001688	ERETS Machinegun Transition	5.56, & 7.62
3A	98001688	Machinegun Assault Course, (100 meter)	5.56 & 7.62
4	98191736	25-Meter Zero	All Rifle
5 50cal	98491781	Machine Gun 10-Meter	5.56, 7.62, &
6	99231803	Hand Grenade Live-Fire	All Live

Familiarization

6N	991183	Hand Grenade Qualification Course	Shell or Fuzed Practice
7	99771835	Claymore/Basic Demolitions	M18, M18A1, Basic 1/4 lb Demo Chg
8	00291850	Automated Field Fire/ Night Fire	5.56, 7.62
9	00521848	Night/NBC /25-Meter Zero	5.56, 7.62
10	00731849	Known Distance (KD)	5.56, 7.62, 50cal
11	00841855	Heavy Weapons	Mortar, 5.56 & 7.62 MG, Recoilless- Rifle, SMAW
Dragon,			
12	01201859	Sniper Field Fire Unknown Distance	All Sniper Rifle
14	01142194	25-Meter Zero	All Rifle
15	01311977	Anti-Armor	Live LAW, AT4,
M203			

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16	01842045	Anti-Personnel/Anti- AT4 Armor	Live M203, LAW,
17	02562105	M79/M203 Qualification 2 Story Facade W/Windows (TP Ammunition Only)	40MM TP
18	03142126	Fire and Movement (Bridge Crossing and Objective Area)	Shotgun, 5.56MM, 7.62MM,
Claymore, Demolitions			
19	04662251	Heavy Weapons Gun, Recoilless- Rifle, LAW, Dragon	Mortar, Machine MK 19,
20	05702102	Infantry Squad Battle	5.56, 7.62, M203

		Course (4 Vehicle Moving Convoy Objective)	Illum, LAW & Sub-Cal,
TP AT4 Claymore			
21	06002028	Heavy Weapons	Mortar, Machine MK 19,
Gun, Recoilless- Rifle, Dragon,			TOW (inert), Direct Lay
Mortar			
22	07462040	Engineer Qualification Range	Demolition All
Training, Rifle and Machine Gun			
23	08422051	25 Meter Zero	All Rifle
24	10341863	Heavy Weapons and Vehicle Mounted Machine-Gun Attack Course	Machine Gun, MK Recoilless- Dragon,
19, Rifle, Mortar			
25H	09351564	Aerial Gunnery Complex	All Rotary Wing Weapons except
Hellfire/Fixed Wing Ordnance by Approval			
25G		Ground Unit Special Use Complex (Trench and Built- Up Objective Area)	Infantry Platoon Organic Weapons
26S	10231389	Squad Attack Course	5.56, 7.62, M203
TP 27S	06031254		Illum, LAW &
AT4	28S	03331291	Sub-Cal,
Claymore, Demo Blocks			1/4lb

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26P	09251373	Platoon Attack Course	5.56, 7.62,
27P	06651256		M203TP & Illum,
28P	04781273		LAW & AT4 Sub
Cal,			Claymore, 1/4lb
Demo			Blocks
29	08101240	Assault Bridge Crossing, Riverboat Operations, and	5.56, 7.62, 50 40MM TP &
cal,			

Illum

Fire and Movement

30	03751673	2 Room Tire House (Combat in Cities)	5.56 & Smaller
32	97971289	Automated Record Fire/NBC	All Rifle
33	97801319	Heavy Weapons	60 & 81MM Mortar, Machine Gun, MK
19,			Recoilless Rifle, Dragon, LAW,

AT4

34	97241430	ERETS Modified Record Fire (MRF)/Night Fire/NBC	All Rifle
35	97311562	25-Meter Zero	All Rifle
37	97381591	Automated Field Fire	All Rifle
38	97371600	Night Fire/NBC	All Rifle
39M	01401980	Mortar Lane	Mortar

Section/Platoon

40A	96971459	Artillery Lane	Artillery Battery
41I	07901250	Infantry Lane	Infantry Platoon Organic

Weapons

A-5

APH Reg 350-2 (1 Feb 96)
App A

DEMOLITION

<u>SITE</u>	<u>LOCATION</u>	<u>TYPE CHARGES/USAGE</u>
<u>CHARGE</u>		

MAX-

DS 70A	05152128	Special	150 LBS
DS 70B	04602025	Heavy Demolition	150 LBS
DS 71A	06701948	Special	150 LBS
DS 71B	06091920	Heavy Demolition	150 LBS
DS 71C	06821880	Heavy Demolition	150 LBS
DS 71D	05521883	Special	200 LBS
DS 72	10302056	Light Demolition	50 LBS
DS 73	10462115	Light Demolition	10 LBS
DS 74	10922136	Light Demolition	10 LBS
DS 75	08031648	Heavy Demolition	150 LBS
DS 76	03691550	Heavy Demolition	200 LBS
DS 77	02161546	Heavy Demolition	250 LBS
DS 78	98901530	Light Demolition	75 LBS
DS 79	00391800	Light Demolition	50 LBS
DS 80	01311359	Light Demolition	50 LBS

A-6

APH Reg 350-2 (1 Feb 96)
App A

INDIRECT FIRING POSITIONS

Number

Use

Grid

FP1	FA	
99681174 FP2		FA/Mortar
00631153 FP3		FA/Mortar
01211191		
FP7	FA/Mortar	
08681701 FP8		FA/Mortar
08951645		
FP9	FA/Mortar	
08831368		
FP11	FA/Mortar	
08481320		
FP12	FA/Mortar	
01081031		
FP14	FA	
05231313		
FP15	FA	
05401301		
FP16	FA	
08001998		
FP17	FA/Mortar	
08761855		
FP18	FA/Mortar	
09681937		
FP19	FA/Mortar	
10001911 FP20		FA/Mortar
09142031		
FP21	FA	
08841961		
FP22	FA/Mortar	
08802050 FP23		FA/Mortar
06341889 FP24		FA/Mortar
06261921 FP25		FA
06922019		
FP26	FA	
06672117		
FP27	FA	
03142126		
FP28	FA	
05072316		
FP31	FA/Mortar	
99371771		
FP34	FA	
96971459		
FP39	FA/Mortar	
99071240		
FP40	FA/Mortar	
99051213		
FP41	FA/Mortar	
00811214		
FP43	FA/Mortar	
09341483		
FP44	FA/Mortar	
09371505		

FP46	FA/Mortar
09281613	
FP47	FA/Mortar
08421646	
FP48	FA/Mortar
08491676	
FP50	FA
08562244	
FP51	FA
10302056	

A-7

APH Reg 350-2 (1 Feb

96)

App A

MP3	Mortar	
99851807		
MP4	Mortar	
99621802		
MP5	Mortar	
04872236		
MP6	Mortar	
01331933		
MP7	Mortar	
00841855 MP8		Mortar
01301859 MP9		Mortar
01591856 MP12		Mortar
00421170		
MP13	Mortar	
98671204		
MP14	Mortar	
97781372		
OP1M	Mortar	
01851235		
OP2M	Mortar	
02271288		
OP3M	Mortar	
01141369		
OP4M	Mortar	
01801357		
OP7M	Mortar	
00821779		
OP8M	Mortar	

08671643	
OP9M	Mortar
08501499	
RN6M	Mortar
99231803	
RN7M	Mortar
99771835	
RN19M	Mortar
04642238	
RN21M	Mortar
06002028	

DIRECT LAY MORTAR POSITIONS

RN11	00841855	MP5
04872236		
RN19	04642238	OP3
01141369		
RN21	06002028	OP4
01801357		
RN24	10341863	OP7
00821779		
RN25G	09351564	OP8
08671643		
RN33	97801319	OP9
08501499		
		DS79
00391800		

OBSERVATION POSITIONS

NUMBER	TYPE	IMPACT AREA	GRID
OP1	Berm	Upper Zion	
01851234			
OP2	Berm	Upper Zion	
02271288			
OP3	High Ground	Upper Zion	
01141369			
OP4	Hill Top	Upper Zion	
01801357			
OP5	Wood Tower	Upper Zion	
02351252			
OP6	Berm	Mortar Lane	
00211808			
OP7	Ridge Top	Mortar Lane	
00821779			
OP8	Berm	Daniel	
08671643			
OP9	Wood Tower	Daniel	
08501499			
OP10	Wood Tower	Daniel	094158

1. Range 1 - Combat Pistol Qualification Course (CPQC)
2. Location: 97391655
3. Standard Training: Designed according to TC 25-8 to meet CPQC requirements of FM 23-35.
4. Number of positions/lanes: Fifteen firing lanes.
5. Type and description of targetry: Seven pop up targets per lane, toggle switch operated, and manual scoring.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with covered bleachers.
 - e. Range phone.
7. Special instructions: None.
8. Authorized weapons: All pistols and revolvers.

96)

App A

1. Range 2 - Pistol/Shotgun KD and Military Police Firearms Qualification Course (MPFQC)
2. Location: 97561667.
3. Standard Training:
 - a. Shotgun familiarization and KD firing.
 - b. KD pistol and quick kill using voice commands.
 - c. MPFQC as outlined in FM 19-10.
4. Number of positions/lanes:
 - a. Five shotgun firing positions.
 - b. Fifteen KD/quick kill pistol firing positions.
 - c. Five MPFQC lanes.
5. Type and description of targetry:
 - a. Shotgun lanes staple targets to fixed target holders.
 - b. KD lanes have buried pipes for target holders.
 - c. MPFQC lanes have staked target holders for silhouettes. Radio controlled pop-up targets are also available.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with covered bleachers.
 - e. Range Phone.

7. Special instructions:

a. New automated turning targets will be installed for the pistol lanes in FY96.

b. Staple guns and staples are available from Range Control.

c. Targets, flag, and material for pistol, shotgun, and MPFQC are in the target shed.

8. Authorized weapons:

a. All pistols and revolvers.

b. All shotguns.

A-11

APH Reg 350-2 (1 Feb

96)

App A

1. Range 3 - SAW/M60 Machine Gun Transition and Machinegun Assault Course (ERETS)

2. Location: 98001688.

3. Standard Training:

a. SAW and M60 machine gun transition firing requirements outlined in FM 23-14 and FM 23-67.

b. 50 caliber may fire familiarization on the first three lanes.

c. Sniper training.

4. Number of positions/lanes: Transition -10, Assault - 5, and 50cal - 3.

5. Type and description of targetry: Fourteen computerized target locations per lane: Three sets of single E silhouettes from 100 to 300 meters, seven sets of double E silhouettes from 400 to 750 meters, and an array of four sets of double E silhouettes at 800 meters. Five additional single silhouettes are located at 100 meters for assault fire.

6. Fixed facilities:

a. Tower with PA system.

b. Target shed.

c. Latrine.

d. Concurrent training area with covered bleachers.

e. Range phone.

7. Special instructions:

a. Transition: None.

b. Assault:

(1) RSO will ensure movement downrange is on command

only and that gunners remain on line at all times.

(2) Each new gunner will be accompanied by an assistant safety officer on his first run who will follow close enough behind to provide stability.

A-12

APH Reg 350-2 (1 Feb 96)
App A

(3) Each assistant safety officer will have a whistle which will be used as an emergency signal. If blown, all gunners will cease-fire and halt, place weapons on safe, keep weapons up and downrange, and wait for instructions from the RNOIC/RSO.

(4) All personnel moving in the assault will wear protective helmets and if available, body armor.

c. Sniper training:

(1) 7.62 and below can use all ten lanes.

(2) 50 cal will use the first three lanes.

8. Authorized weapons:

a. SAW.

b. M60.

c. 50 caliber.

96)

App A

1. Range 4 - Basic 25-Meter Zero
2. Location: 98191736
3. Standard Training:
 - a. Rifle zero requirements outlined in FM 23-8 and FM 23-9.
 - b. Course "C" qualification.
4. Number of positions/lanes: 100 foxhole positions.
5. Type and description of targetry: KD wood frame target holders.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.
7. Special instructions:
 - a. Staple guns and staples are available from Range Control.
 - b. Targets, flag, and material for zero and course "C" qualification are in the target shed.
8. Authorized weapons: All rifles.

A-14

APH Reg 350-2 (1 Feb 96)
App A

1. Range 5 - Machine Gun 10-Meter
2. Location: 985179
3. Standard Training: Zero and 10 meter training requirements outlined in FM 23-14, FM 23-65, and FM 23-67.
4. Number of positions/lanes: Fifty positions.
5. Type and description of targetry: KD wood frame target holders.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range Phone.
7. Special instructions:
 - a. Staple guns and staples are available from Range Control.
 - b. Targets, flag, and material for zero and qualification are in the target shed.
8. Authorized weapons:
 - a. SAW.
 - b. M60.
 - c. 50 calibre.

A-15

APH Reg 350-2 (1 Feb

96)

App A

1. Range 6 - Hand Grenade Familiarization
2. Location: 99231803
3. Standard Training: Live-fire familiarization as outlined in FM 23-30.
4. Number of positions/lanes: Two sets of facilities each consisting of a safety control bay and five throwing bays. The two are separated by a center berm and a common protective wall.
5. Type and description of targetry: None.
6. Fixed facilities:
 - a. Ten (10) concrete throwing bays.
 - b. Two (2) safety observation bunkers, one on either side of the separation berm.
 - c. Latrine.
 - d. Concurrent training area with throwing bay mock-up and covered bleachers.
 - e. Range phone.
7. Special instructions:
 - a. In the event of a dud, an immediate cease fire will be called and Range Control notified. With Range Control approval, firing may continue on the side away from the dud.
 - b. Unit may request target silhouettes or other material from Range Control however the unit is responsible for emplacing and clearing targets.

c. Personnel handling or throwing casualty producing hand grenades will wear protective helmets.

d. Personnel will successfully complete practice grenade training prior to live grenade training.

8. Authorized weapons:

a. Fragmentation.

b. Offensive.

c. Practice.

A-16

APH Reg 350-2 (1 Feb 96)
App A

1. Range 6N - Hand Grenade Qualification Course

2. Location: 99101825

3. Standard Training: Designed by TC 25-8 standards to accomplish training requirements outlined in FM 23-30.

4. Number of positions/lanes: Facilities are as shown in TC 25-8 and FM 23-30 for Hand Grenade Qualification Course.

5. Type and description of targetry: Targetry is same as described in TC 25-8 and FM 23-30.

6. Fixed facilities:

a. Latrine.

b. Concurrent training area with bleachers.

c. Range phone.

7. Special instructions: None.

8. Authorized weapons: Practice hand grenades.

A-17

APH Reg 350-2 (1 Feb

96)

App A

1. Range 7 - Light Demolition/Claymore
2. Location: 99771835
3. Standard Training: Basic demolition instruction as outlined in FM 5-250 and familiarization with Claymore Mines as outlined in FM 23-23.
4. Number of positions/lanes: Eight hour time block will accommodate company size training program. Open target area is large enough for one engineer platoon block of basic demolition instruction. Up to five claymores may be detonated at a time.
5. Type and description of targetry: None.
6. Fixed facilities:
 - a. Evacuation berm.
 - b. Latrine.
 - c. Concurrent training area with bleachers.
 - d. Range phone.
7. Special instructions:
 - a. Requirements for demolition training are covered in Chapter 8.
 - b. RSO will ensure all mines are assembled correctly and that fragmentation face is pointed downrange.
 - c. The RNOIC/RSO will strictly adhere to safety criteria

outlined in Appendix III, FM 23-23.

d. Silhouette targets and wooden stakes are available from Range Control. Units must emplace and remove all target material from the range.

8. Authorized weapons:

- a. M18A1 Claymore.
- b. 1/4 lb block TNT.

A-18

APH Reg 350-2 (1 Feb 96)
App A

1. Range 8 - Automated Field Fire (AFF)

2. Location: 00291850

3. Standard Training:

a. Basic rifle marksmanship field fire requirements outlined in FM 23-8 and FM 23-9.

b. 25 meter rifle zero.

c. Rifle night and NBC fire.

d. Course "C" qualification.

4. Number of positions/lanes: Thirty-four foxhole firing positions.

5. Type and description of targetry: Three pop up targets per lane at 75, 175, and 300 meters.

6. Fixed facilities:

a. Tower with PA system.

b. Target shed.

c. Latrine.

d. Concurrent training area with bleachers.

e. Range phone.

7. Special instructions:

a. Range is equipped with "blink-lites" for automated night fire.

b. For rifle zero and course "C" qualification, staple guns and staples must be signed out from Range Control. Targets, flag, and other material required are in the target shed.

8. Authorized weapons: All rifles.

A-19

APH Reg 350-2 (1 Feb

96)

App A

1. Range 9 - Night Fire/NBC/Zero

2. Location: 00521848

3. Standard Training:

a. Night fire and NBC requirements of FM 23-8 and FM 23-9.

b. 25 meter rifle zero.

c. Course "C" qualification.

4. Number of positions/lanes: Forty foxhole positions.

5. Type and description of targetry: Pop-up targets equipped with "blink-lites" for automated night fire.

6. Fixed facilities:

a. Tower with PA system.

b. Target shed.

c. Latrine.

d. Concurrent training area with bleachers.

e. Range phone.

7. Special instructions:

a. When night firing, the zero target frames must be picked up and placed on the ground behind the 25 meter line and then replaced prior to clearing the facility.

b. For rifle zero and course "C" qualification, staple guns and staples must be signed out from Range Control. Targets, flag, and other material required are in the target shed.

8. Authorized weapons: All rifles.

A-20

APH Reg 350-2 (1 Feb 96)
App A

1. Range 10 - Known Distance (KD)

2. Location: 00731849

3. Standard Training:

a. KD rifle firing.

b. 25 meter zero.

c. Course "C" qualification.

d. Sniper training.

e. M60 machine-gun marksmanship competition.

4. Number of positions/lanes:

a. Fifteen lanes of cantilever targets.

b. Fifty sandbag positions.

5. Type and description of targetry:

a. Fifteen cantilever target frame systems with distances up to 600 meters.

b. Fifty stationary KD target frames for 25M zero, course "C", and KD firing out to 300 meters.

6. Fixed facilities:

- a. Target shed.
- b. Latrine.
- c. Concurrent training area with bleachers.
- d. Range phone.
- e. Cantilever target system.

A-21

APH Reg 350-2 (1 Feb

96)

App A

7. Special instructions:

a. Communications must be maintained between the firing line and the target pit crew at all times. Field phones are available at Range Control for this purpose, however units must supply their own wire.

b. Target cloth is provided within budget constraints. Units should check with Range Control ahead of time to ensure availability.

c. Paste for targets is a unit responsibility.

d. White or black pasters will be provided by Range Control.

e. For rifle zero and course "C" qualification, staple guns and staples must be signed out from Range Control. Targets and other material required must also be coordinated with Range Control.

f. Range set up is a unit responsibility. Range Control will assist as time and resources allow.

8. Authorized weapons:

- a. All rifles.
- b. M60 machine guns.

A-22

APH Reg 350-2 (1 Feb 96)
App A

1. Range 11 - Mortar Range
2. Location: 00841855
3. Standard Training:
 - a. Indirect and direct mortar fire.
 - b. SAW and M60 machine gun field fire.
 - c. Light Anti Armor.
4. Number of positions/lanes:
 - a. Direct Lay Mortar - 3
 - a. Machine gun - 4
 - b. Anti armor:
 - (1) Recoilless Rifle - 2
 - (2) AT4 - 2
5. Type and description of targetry: Hard targets.
6. Fixed facilities:

- a. Wooden observation tower.
 - b. Latrine.
 - c. Concurrent training area with bleachers.
 - d. Range phone.
7. Special instructions: None.
8. Authorized weapons:
- a. 60mm and 81mm mortar.
 - b. SAW.
 - c. M60.
 - d. 90MM.
 - e. AT4.

A-23

APH Reg 350-2 (1 Feb

96)

App A

- 1. Range 12 - Sniper Range
- 2. Location: 01201859
- 3. Standard Training:
 - a. Sniper.
 - b. Mortar sub-caliber.
- 4. Number of positions/lanes:
 - a. Two (2) sniper firing positions.
 - b. Three (3) mortar firing positions.
- 5. Type and description of targetry:
 - a. Portable radio controlled pop-up targets.
 - b. Miniature mock up village and various small targets for mortar training up to 800 meters.
- 6. Fixed facilities:
 - a. Two Latrines.

- b. Concurrent training area with bleachers.
 - c. Firing platforms for sniper training.
7. Special instructions:
- a. Range Control needs to be notified telephonically by the unit at least two days in advance so portable target system batteries can be charged for sniper targets.
 - b. Range Control needs to be notified telephonically by the unit at least two days in advance so portable targetry can be emplaced for mortar training.
8. Authorized weapons:
- a. All sniper weapons.
 - b. Mortar sub-cal.

A-24

APH Reg 350-2 (1 Feb 96)
App A

- 1. Range 14 - Basic 25-Meter Zero
- 2. Location: 01142194
- 3. Standard Training:
 - a. Rifle zero requirements outlined in FM 23-8 and FM 23-9.
 - b. Course "C" qualification.
 - c. Pistol KD and "quick-kill" training.
- 4. Number of positions/lanes: 30 sandbag firing positions.
- 5. Type and description of targetry: KD wood frame target holders.
- 6. Fixed facilities:
 - a. Tower with PA system.
 - b. Latrine.
 - c. Concurrent training area with bleachers.
 - d. Range phone.

7. Special instructions:

a. Staple guns and staples are available from Range Control.

b. Targets, flag, and other material required for rifle zero and course "C" qualification must be picked up from Range Control.

c. Target frames for rifle zero must be removed and laid behind the target line for pistol firing. Pistol target frames must be emplaced for training and then returned after training is completed. Rifle targets will then be replaced prior to clearing the facility. This is a unit responsibility.

8. Authorized weapons:

a. All rifles.

b. All pistols.

A-25

APH Reg 350-2 (1 Feb

96)

App A

1. Range 15 - LAW Range

2. Location: 01311977

3. Standard Training:

a. M72 LAW qualification and familiarization.

b. AT4 qualification and familiarization.

c. M202 "Flash" familiarization.

d. 40 MM field fire.

e. 90 MM recoilless rifle familiarization.

4. Number of positions/lanes: Fifteen firing positions.

5. Type and description of targetry: Hard targets set at distances prescribed for M72 LAW as outlined in FM 23-33. Range does not have a moving target.

6. Fixed facilities:

- a. Tower.
- b. Target shed.
- c. Latrine.
- d. Concurrent training area with bleachers.
- e. Range phone.

7. Special instructions:

a. This is a concentrated dud area therefore under no circumstances will personnel be allowed forward of the prepared firing positions.

b. When a dud occurs during firing its location will be map spotted for later ground location. At the end of firing the RNOIC will report to Range Control the number of duds and approximate locations.

c. Under normal firing conditions sufficient backblast area is provided for the M74 LAW, M202, and 90MM recoilless rifle weapons so that North Range Road need not be closed.

A-26

APH Reg 350-2 (1 Feb 96)
App A

d. Backblast on the AT4 requires that north range road be closed when actual firing is in progress. Road guards are a unit responsibility.

e. Backblast areas are doubled when temperature is below freezing. Under freezing conditions the M72, M202, and 90MM recoilless rifle will require closing North Range Road during actual firing. Road guards are a unit responsibility.

8. Authorized weapons:

- a. M72 LAW.
- b. AT 4.
- c. M202.
- d. M203, M79, and MK19.
- e. 90MM recoilless rifle.

A-27

APH Reg 350-2 (1 Feb

96)

App A

1. Range 16 - Grenade Launcher
2. Location: 01842045
3. Standard Training:
 - a. Qualification requirements for M203 as outlined in FM 23-31.
 - b. Familiarization for M72, M202, and AT4.
 - c. 90MM recoilless rifle.
4. Number of positions/lanes: Four firing lanes with four firing positions as described in TC 25-8.
5. Type and description of targetry: Hard targets.
6. Fixed facilities:
 - a. Tower.

- b. Target shed.
- c. Latrine.
- d. Concurrent training area with bleachers.
- e. Range phone.

7. Special instructions:

a. This is a concentrated dud area therefore under no circumstances will personnel be allowed forward of the prepared firing positions.

b. At the end of firing the RNOIC will report to Range Control the number of duds and approximate locations.

8. Authorized weapons:

- a. M203.
- b. M72.
- c. M202.
- d. AT4.
- e. 90MM.

A-28

APH Reg 350-2 (1 Feb 96)
App A

1. Range 17 - Grenade Launcher

2. Location: 02562105

3. Standard Training:

- a. Qualification in accordance with TC 25-8.
- b. Two story facade is in accordance with TC 90-1.

4. Number of positions/lanes:

a. Qualification range has four firing lanes with four firing positions each as described in TC 25-8.

b. Two each two story facades.

5. Type and description of targetry:

a. Targetry for qualification is in accordance with TC 25-8.

b. Two story facades have appropriate window and door openings as shown in TC 90-1.

6. Fixed facilities:

- a. Tower with PA system.
- b. Target shed.
- c. Latrine.
- d. Concurrent training area with bleachers.
- e. Range phone.

7. Special instructions:

- a. Only TP ammunition will be fired on this range.

b. Two story facades are built to accept radio controlled pop-up targets and may be assaulted in conjunction with a fire team. Unit must coordinate fire team overlays in advance with Range Control and are responsible for the emplacement and removal of the targets. If these targets are going to be used they must be scheduled with Range Control at least two days in advance in order to allow the system to be adequately charged.

8. Authorized weapons: M203.

A-29

APH Reg 350-2 (1 Feb

96)

App A

1. Range 18 - Fire and Movement

2. Location: 03142126

3. Standard Training: Tactical maneuver and includes the opportunity for a bridge or objective assault.

4. Number of positions/lanes: Squad size operations.

5. Type and description of targetry: Open grassy area approximately 200M X 200M with approximately 1KM square of wooded maneuver area and trails leading to a water crossing site and objective area.

6. Fixed facilities: Range phone.

7. Special instructions:

a. Range safety fans will be developed in coordination with Range Control as outlined in Chapter 12 for live-fire exercises.

b. Radio controlled pop-up targets may be emplaced as well as hard target objectives. A timber bridge may also be constructed at the water crossing site to be assaulted or destroyed. The area may be bridged, blown, or assaulted depending on the current status of the site and the unit's capability to assist in the enhancement of the target area.

8. Authorized weapons:

- a. Small arms 7.62MM and below.
- b. M72 and AT4.

A-30

APH Reg 350-2 (1 Feb 96)
App A

- 1. Range 19 - Law Range
- 2. Location: 04662251
- 3. Standard Training:
 - a. M72, M202, and AT4 familiarization.
 - b. 90 MM recoilless rifle familiarization.
 - c. Dragon.
 - d. M203 familiarization.
 - e. Machine-gun familiarization.
 - f. 60MM and 81MM mortar direct and indirect lay.
- 4. Number of positions/lanes:

- a. Two anti-armor weapons at a time.
 - b. One Dragon gunner at a time.
 - c. Four M203 weapons at a time.
 - d. Two machine-guns at a time.
 - e. A full mortar platoon on line with a frontage of approximately 75 meters.
5. Type and description of targetry: Hard targets located in a firing area consisting of three ridge line impact areas from 350 to 2200 meters.
6. Fixed facilities:
- a. Latrine.
 - b. Concurrent training area with bleachers.
 - c. Range phone.

A-31

96)

APH Reg 350-2 (1 Feb

App A

7. Special instructions:
- a. OP located on the range may be jointly used without coordination.
 - b. Target impact area at the 2000M distance may be jointly used without coordination.
 - c. The range has survey control and may also be used as an indirect firing position.
8. Authorized weapons:
- a. Anti-armor direct fire up to and including Dragon.
 - b. M203.
 - c. All machine-guns.

d. 60MM and 81MM mortars at the close ridge lines at targets outside the prescribed danger areas and all mortars at the far ridge line.

A-32

APH Reg 350-2 (1 Feb 96)
App A

1. Range 20 - Infantry Squad Battle Course
2. Location: 05702102.
3. Standard Training: Provides live-fire training for squads using all organic weapons in an attack scenario. Accommodates requirements for land navigation, combat patrolling, leadership training, and combined/coordinated operations.
4. Number of positions/lanes: Squad with supporting mortars.
5. Type and description of targetry: Convoy of four trucks pulled down a track.
6. Fixed facilities: None.
7. Special Instruction:
 - a. Unit must provide an operator to Range Control to be

trained on the operation of the moving target power system.

b. The controller who is accompanying the maneuver unit will have two-way communication with the operator. This provides the controller his means of starting and stopping the moving vehicles.

c. The facility includes LZ's for insertion and extraction as well as mortar positions for illumination and fire support.

d. A packet containing the complete range capabilities is available from Range Control and is included in the range book for the facility.

8. Authorized weapons:

- a. Organic squad weapons 7.62MM and below.
- b. Claymore.
- c. 60 and 81MM mortars.
- d. M203 TP and illumination only.
- e. LAW and AT4 sub-cal only.

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APH Reg 350-2 (1 Feb

96)

App A

- 1. Range 21 - 40MM Grenade Machine-gun Qualification
- 2. Location: 06002028
- 3. Standard Training:
 - a. MK19 machine-gun qualification.
 - b. Machine-gun familiarization.
 - c. Direct lay mortar out to 1500 meters.
 - d. Light and heavy anti-armor weapons.
 - e. Artillery direct fire.
- 4. Number of positions/lanes:

- a. Two lanes of MK19 qualification.
 - b. Two machine-guns.
 - c. Mortar platoon.
 - d. Two anti-armor weapons.
 - e. Two artillery pieces.
5. Type and description of targetry: Hard targets.
6. Fixed facilities:
- a. Latrine.
 - b. Concurrent training area with bleachers.
 - c. Range phone.
7. Special instructions:
- a. Impact area may be jointly used for indirect fire without coordination.
 - b. The range has survey control and may be used as an indirect firing position.

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APH Reg 350-2 (1 Feb 96)
App A

8. Authorized weapons:
- a. Small arms up to and including 40MM.
 - b. Anti armor weapons up to Dragon and inert TOW.
 - c. 60MM/81MM direct lay mortar.
 - d. All cannon field artillery.
 - e. All indirect fire.

A-35

APH Reg 350-2 (1 Feb

96)

App A

1. Range 22 - Engineer Qualification Course
2. Location: 07462040
3. Standard Training: Engineer obstacle breaching or emplacement.
4. Number of positions/lanes: Will accommodate up to an engineer platoon.
5. Type and description of targetry: Wire obstacles, bunker, and bridge.
6. Fixed facilities:
 - a. Tower.

- b. Target shed.
 - c. Latrine.
 - d. Assembly area (AA) and after action review (AAR) site with covered bleachers.
 - e. Evacuation bunkers.
 - f. LZ's for insertion and extraction.
7. Special instructions:
- a. Maximum demolition charge is 110lbs.
 - b. All damage to the facility must be repaired, replaced, or funded. Coordination for damage control must be made with Range Control prior to usage.
 - c. Small arms may be incorporated into a scheme of maneuver. The operation must be coordinated with Range Control and meet requirements outlined in Chapter 12.
 - d. Range will be upgraded in FY96 to incorporate pop-up small arms targets for engagement by breaching or supporting unit. It is the unit's discretion as to whether this part of the range is used. To be used, the unit must notify Range Control telephonically at least two days in advance so portable target system batteries can be charged. Unit must supply a detail to assist in emplacing and removing pop-up targets.

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APH Reg 350-2 (1 Feb 96)
App A

8. Authorized weapons:
- a. Standard demolition and breaching charges.
 - b. 7.62MM and below.
 - c. M72 and AT4 sub-cal.

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APH Reg 350-2 (1 Feb

96)

App A

1. Range 23 - Basic 25-Meter Zero
2. Location: 08422051
3. Standard Training:
 - a. Rifle zero requirements outlined in FM 23-8 and FM 23-9.
 - b. Course "C" qualification.
4. Number of positions/lanes: 30 sandbag firing positions.
5. Type and description of targetry: KD wood frame target

holders.

6. Fixed facilities:

- a. Latrine.
- b. Concurrent training area with bleachers.
- c. Range phone.

7. Special instructions:

- a. Staple guns and staples are available from Range Control.
- b. Targets, flag, and material for zero and course "C" qualification must be picked up from Range Control.

8. Authorized weapons: All rifles.

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APH Reg 350-2 (1 Feb 96)
App A

1. Range 24 - Machine-gun Field Fire

2. Location: 10341863

3. Standard Training:

- a. SAW, M60, 50cal, and MK19 field fire.
- b. Direct lay 60MM and 81MM mortar.
- c. Direct fire artillery.

- d. Vehicle mounted machine-gun recon/attack course.
 - e. Dragon.
4. Number of positions/lanes:
- a. Six built up machine-gun positions.
 - b. Three gun mortar platoon.
 - c. Two artillery pieces.
 - d. One vehicle mounted machine-gun lane.
 - e. Two Dragon position.
5. Type and description of targetry: Hard targets.
6. Fixed facilities:
- a. Latrine.
 - b. Concurrent training area with bleachers.
 - c. Range phone.

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APH Reg 350-2 (1 Feb

96)

App A

7. Special instructions:

a. Range Control has a range packet available that provides current standard scenarios with all safety and operational guidelines.

b. Vehicle mounted machine-gun course has up to nine engagements when the Bomb Run extension is included in the course. The Bomb Run extension must be coordinated for and scheduled separately from the standard range. When using the vehicle mounted machine-gun course the RSO must be on board or

in a follow-on safety vehicle and capable of commanding an immediate cease-fire. Safety personnel must do a dry run on the course and positively identify all targets and their respective start-fire and cease-fire lines prior to going "live".

c. Range has survey control and may be used as an indirect fire position.

d. Deviations from standard courses as outlined in Range 24 handout will require the unit to coordinate overlays and scenarios with Range Control according to guidance in Chapter 12 prior to being allowed to live-fire.

8. Authorized weapons:

- a. All machine guns.
- b. 60MM and 81MM mortars.
- c. Anti-armor weapons up to and including Dragon.
- d. 105MM and 155MM howitzer.
- e. Dragon.

A-40

APH Reg 350-2 (1 Feb 96)
App A

1. Range 25H - Aviation Gunnery

2. Location: 09351564

3. Standard Training:

a. Helicopter gunnery requirements prescribed by FM 1-140.

b. Fixed wing aircraft air-to-ground requirements with

both guns and bombs.

c. Equipped with the computerized Aerial Weapons Scoring System (AWSS).

4. Number of positions/lanes:

- a. Nine hover positions.
- b. Two running fire lanes.
- c. Two TOW firing positions.
- d. Door gunners courses.
- e. Two convoys for bombing or strafing fire.

5. Type and description of targetry: Hard targets.

6. Fixed facilities:

- a. Control tower.
- b. Operations center van.
- c. Latrine.
- d. Range phone.
- e. Five concrete helipads with re-arm bunkers.

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APH Reg 350-2 (1 Feb

96)

App A

7. Special instructions:

a. RNOIC of the complex has complete control and will internally manage conflicts. A range packet with a current listing of standard facilities, range fans, and operational procedures will be provided to the RNOIC when he signs for the facility.

b. Fixed wing aviation will have flight paths, targets,

fans, and communications coordinated in advance with Range Control.

c. The range 24 and Bomb Run extension to the aerial gunnery complex is a standard addition and may be used without separate scheduling or special coordination.

d. AWSS must be scheduled through FORSCOM or the National Guard Bureau to Army Training Support Center (ATSC) for funding and approval.

e. TOW missiles must be inert or "EMOIC" equipped and firing coordinated in advance with Range Control.

f. Firing of Depleted Uranium (DU) ammunition is not authorized.

g. Firing of live Hydro-70 sub-munitions is not authorized.

h. Firing of any member of the family of scatterable mines (FASCAM) is not authorized.

8. Authorized weapons:

a. All AH1 and AH64 weapons systems except Hellfire. Hellfire safety approval is still pending.

b. All door gunnery weapons.

c. All fixed wing guns including AC130.

d. Bombs, both HE and inert, up to and including 500lbs.

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APH Reg 350-2 (1 Feb 96)
App A

1. Range 25G - Ground Maneuver Complex

2. Location: 09351564

3. Standard Training: ARTEP 7-8-MTP requirements.

4. Number of positions/lanes:

- a. Main objective area.
 - b. Numerous indirect fire positions with three OP's.
 - c. Two TOW/Dragon firing positions.
 - d. Two direct lay mortar positions.
 - e. Approximately two grid squares of maneuver area.
5. Type and description of targetry:
- a. Hard Targets.
 - b. Radio controlled pop-up infantry targets.
 - c. Radio controlled armor lifters.
6. Fixed facilities: Same as Range 25.
7. Special instructions:
- a. All operations will require overlays and coordination with Range Control and must meet requirements of Chapter 12 for live-fire exercises.
 - b. Radio controlled armor and infantry targets are available to be used in a scenario. Range Control needs at least two day notification in order to get batteries charged. Emplacement and removal are a unit responsibility.
8. Authorized weapons:
- a. All organic platoon weapons.
 - b. Anti-armor including TOW/Dragon.
 - c. All indirect fire weapons.
 - d. Fixed and rotary wing aviation.

A-43

APH Reg 350-2 (1 Feb 96)
App A

1. Ranges 26, 27 and 28 (S&P) - Infantry Squad and Platoon Assault Courses
2. Location:
- a. 26S 104138
 - b. 26P 092137

- c. 27S 061125
- d. 27P 069123
- e. 28S 033129
- f. 28P 048127

3. Standard Training: ARTEP 7-8-MTP. Scenario will be as outlined in the range book provided by Range Control. It allows squad and platoon training for soldiers in the application of fundamental offensive and defensive small unit tactics under simulated battle conditions. They will use all organic weapons in movement-to-contact and hasty attack operations.

4. Number of positions/lanes:

- a. Three squad ranges.
- b. Three platoon ranges.

5. Type and description of targetry:

a. Each hard-wired squad range has approximately fifteen electrical pop-up targets, eleven demolition pits for hostile fire simulation, and machine-gun fire back simulators.

b. Each hard wire platoon range has approximately twenty-five electrical pop-up targets, twenty-two demolition pits for hostile fire simulation, and machine-gun fire back simulators.

c. Each range has at least one hard target emplacement.

6. Fixed facilities:

a. Control station/Tower (only Range 28S and 28P have towers).

b. Latrine.

c. Concurrent training areas with bleachers.

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APH Reg 350-2 (1 Feb 96)
App A

d. Range phones - are currently located at civilian boundary gates to the range, however they are to be relocated to the control station/tower area during FY96.

7. Special instructions:

a. The standard scenario with listed firing positions and

limits will be followed unless prior coordination is made with Range Control. Packet shows preparation and assembly areas, attack positions, lines of departure, final coordination lines, objectives, and enemy counterattack positions. Any departure from standard must be approved by Range Control in advance and meet requirements outlined in Chapter 12.

b. Preparation and assembly areas are in the vicinity of the parking lot. Entry to the range proper is by tactical patrol through the wooded area to the initial attack positions.

c. Safety briefing by RNOIC/RSO must include instructions not to enter the demolition pits at any time.

d. Demolition pits are built to accept electrically primed 1/4lb TNT blocks fired on command by the control station operator. Ammunition and set-up for the demolition pits is a unit responsibility.

e. The use of the hostile fire machine-gun simulator must be coordinated in advance with Range Control and is subject to availability.

f. The RNOIC/RSO will accompany the soldiers through the course and will carry a whistle as an emergency cease fire signal for daytime and a starcluster for night. The use of these emergency signals will be included in the range briefing to all personnel prior to using the facility.

g. Controller must have positive two-way communication with the control station operator at all times.

h. M203 TP and illumination ammunition only.

i. LAW and AT4 subcaliber only.

8. Authorized weapons:

a. All organic squad and platoon weapons.

b. Machine gun up to and including 7.62MM.

c. Claymore.

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APH Reg 350-2 (1 Feb

96)

App A

1. Range 29 (TA29) - Assault Bridge Crossing/River Boat Operations

2. Location: 08101240

3. Standard Training: Assault bridge crossings, small boat operations, vehicle swimming operations, and river boat operations.
4. Number of positions/lanes: The White Lake and surrounding area with two crossing sites.
5. Type and description of targetry: None.
6. Fixed facilities:
 - a. Latrine.
 - b. Concurrent training area with bleachers.
 - c. Range phone.
7. Special instructions:
 - a. The range can be used for bridging and patrolling with covering fire for the crossing operations and live-fire water assaults.
 - b. The RNOIC must ensure that all operations are approved and coordinated in advance with Range Control and that overlays are on file in accordance with Chapter 12 requirements.
 - c. The RSO must make a water sweep of the lake area to ensure there are no unauthorized personnel down-range fishing prior to the initiation of live-fire operations. A guard will be placed near the civilian boundary to warn fishermen to stay clear of the live-fire area.
 - d. A safety boat will always be on hand during water operations.
8. Authorized weapons:
 - a. All small arms.
 - b. Claymore.

A-46

APH Reg 350-2 (1 Feb 96)
App A

1. Range 30 - Tire House
2. Location: 03751673

3. Standard Training:

a. Live-fire combat in cities (CIC) to include clearing and hostage rescue operations.

b. Command and control objective.

4. Number of positions/lanes: Two rooms and connecting hallway.

5. Type and description of targetry: None.

6. Fixed facilities: None.

7. Special instructions:

a. 5.56MM and below may be fired in any direction when CIC operations or assaults are conducted.

b. 7.62MM may be used at the facility, however their fires must be restricted.

c. All clearing and rescue operations must be dry fired until the RNOIC/RSO is satisfied that it can be performed safely.

d. The RNOIC must ensure that all operations are approved and coordinated in advance with Range Control. An operations SOP with approved overlays in accordance with Chapter 12 must be on file prior to the initiation of live-fire.

8. Authorized weapons:

a. 7.62MM and below.

b. Concussion, fragmentation, and practice grenades.

c. 40MM TP and illumination.

A-47

APH Reg 350-2 (1 Feb 96)
App A

1. Range 32 - Automated Record Fire

2. Location: 97971289
3. Standard Training: Rifle qualification requirements outlined in FM 23-8 and FM 23-9.
4. Number of positions/lanes: Sixteen foxhole firing positions.
5. Type and description of targetry: Six electrical pop up targets per lane.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.
7. Special instructions: None.
8. Authorized weapons: All rifles.

A-48

APH Reg 350-2 (1 Feb 96)
App A

1. Range 33 - 40MM Grenade Machine-gun Qualification

2. Location: 97801319
3. Standard Training:
 - a. MK19 machine-gun qualification.
 - b. Machine-gun familiarization.
 - c. Direct lay mortar out to 1500 meters.
 - d. Light and heavy anti-armor weapons.
 - e. Artillery direct fire.
4. Number of positions/lanes:
 - a. Three lanes of MK19 qualification.
 - b. Three machine-guns.
 - c. Mortar platoon.
 - d. Three light anti-armor weapons.
 - e. Three Dragon weapon systems.
 - f. Two TOW weapon systems.
 - g. Three artillery pieces.
5. Type and description of targetry: Hard targets.
6. Fixed facilities:
 - a. Tower.
 - b. Latrine.
 - c. Concurrent training area with bleachers.
 - d. Range phone.

7. Special instructions:

a. 40MM weapons will fire TP and illumination ammunition only.

b. All weapons will fire down their respective lanes. Cross-firing is prohibited. Lanes have color coded targets for identification.

c. Artillery direct fire will have safety limits, overlay, and control number provided by Range Control. Request must be made at least two days in advance of firing.

d. Tow firing must be inert or EMOIC equipped weapons.

8. Authorized weapons:

a. Small arms up to 50 calibre.

b. Anti-armor.

c. 60MM direct lay mortar.

d. All field artillery direct fire.

1. Range 34 - Automated Record Fire (ERETS)
2. Location: 97241430
3. Standard Training: Rifle qualification requirements outlined in FM 23-8 and FM 23-9.
4. Number of positions/lanes: Sixteen foxhole firing positions.
5. Type and description of targetry: Seven computerized pop-up targets per lane.
6. Fixed facilities:
 - a. Tower with computerized control and recording equipment and PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.
7. Special instructions:
 - a. Range Control will provide the range operator who will open the range, put up the flag/nite-lite, provide all scenario operation, recording, and print out functions and clear the unit from the facility.
 - b. Unit is responsible for providing the RNOIC, RSO, lane safeties, RTO and communications equipment, and tower PA operator.
8. Authorized weapons: All rifles.

App A

1. Range 35 - Basic 25-Meter Zero
2. Location: 97311562
3. Standard Training:
 - a. Rifle zero requirements outlined in FM 23-8 and FM 23-9.
 - b. Course "C" qualification.
4. Number of positions/lanes: 25 foxhole positions.
5. Type and description of targetry: KD wood frame target holders.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.
7. Special instructions:
 - a. Staple guns and staples are available from Range Control.
 - b. Targets, flag, and material for zero and course "C" qualification are in target shed.
8. Authorized weapons: All rifles.

1. Range 37 - Automated Field Fire (AFF)/Sniper
2. Location: 97381591
3. Training:
 - a. AFF - Designed to meet field fire phase of rifle marksmanship outlined in FM 23-8 and FM 23-9.
 - b. Sniper - marksmanship requirements, less the moving target, outlined in TC 23-14 are superimposed over lanes 32 and 34.
 - c. Basic 25 meter zero.
 - d. Course "C" qualification.
4. Number of positions/lanes:
 - a. AFF - Thirty Four foxhole firing positions.
 - b. Sniper - Two foxhole positions.
 - c. Zero and Course "C" qualification - Thirty four foxhole firing positions.
5. Type and description of targetry:
 - a. AFF - Three hard wire pop-up targets per lane at 75, 175 and 300 meters.
 - b. Sniper - Three hard wire pop-up targets at 75, 175, and 300 meters and up to eleven radio controlled pop-up targets per lane at distances up to 1000 meters.
6. Fixed facilities:
 - a. Tower with PA system.
 - b. Target shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.

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App A

7. Special instructions:

a. Sniper targetry needs to be scheduled at least two days in advance so portable target system batteries can be charged.

b. Sniper target set up and removal is a unit responsibility.

c. For rifle zero and course "C" qualification, staple guns and staples must be signed out from Range Control. Targets, flag, and other material required are in the target shed.

8. Authorized weapons: All rifles.

1. Range 38 - Night Fire/NBC
2. Location: 97371591
3. Standard Training: Night and NBC qualification standards as outlined in FM 23-8 and 23-9.
4. Number of positions/lanes: Ten foxhole positions.
5. Type and description of targetry: Pop-up targets at 25 and 50 meters equipped with "blink lites" for automated night fire.
6. Fixed facilities:
 - a. Tower with PA.
 - b. Target Shed.
 - c. Latrine.
 - d. Concurrent training area with bleachers.
 - e. Range phone.
7. Special instructions: None.
8. Authorized weapons: All rifle.

96)

App A

1. Range 39M - Mortar Lane
2. Location: 01401980
3. Standard Training: ARTEP requirements of a Mortar platoon.
4. Number of positions/lanes: Lane will support one platoon.
5. Type and description of targetry: Hard targets in four separate impact areas.
6. Fixed facilities:
 - a. Assembly area (AA) with covered bleacher area, map board, sand table, bivouac site, and latrine.
 - b. After action review site (AAR) with covered bleacher area, map board, sand table, bivouac site, and latrine.
7. Special instructions:
 - a. A standard scenario is included in the Range Book given to the RNOIC when signing for the facility.
 - b. Small arms fire may be integrated into the operation by coordination with Range Control and compliance with requirements outlined in Chapter 12.
 - c. The RNOIC/RSO will ensure that OP restrictions associated with the various firing points are strictly adhered to.
8. Authorized weapons: All mortars.

1. Range 40A - Artillery Lane
2. Location: 96971459
3. Standard Training: ARTEP requirements of a field artillery battery or battalion.
4. Number of positions/lanes:
 - a. One battery operating from the assembly area (AA) forward to the after action review (AAR) site.
 - b. Two batteries with one starting at the AA and the other starting at the AAR site running the lane in opposite directions.
 - c. Three batteries with two as in "b" above and the third using the northern firing positions.
5. Type and description of targetry: Hard targets in two separate impact areas.
6. Fixed facilities:
 - a. Assembly area with covered bleacher area, map board, sand table, bivouac site, and latrine.
 - b. After action review site with covered bleacher area, map board, sand table, bivouac site, and latrine.
 - c. Most firing positions and OP's have latrines.
7. Special instructions:
 - a. A standard scenario is included in the Range Book given to the RNOIC when signing for the facility.
 - b. Small arms fire may be integrated into the operation by coordination with Range Control and compliance with requirements outlined in Chapter 12.
 - c. The RNOIC/RSO will ensure that OP restrictions associated with the various firing points are strictly adhered

to.

8. Authorized weapons: All field artillery.

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APH Reg 350-2 (1 Feb

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App A

1. Range 41I - Infantry Lane

2. Location: 07901250

3. Standard Training: ARTEP requirements for infantry platoon.

4. Number of positions/lanes: One infantry platoon.

5. Type and description of targetry: Hard-wired and remotely controlled infantry and tank targets, hostile fire simulators, hard targets, and engineer obstacles and bunkers.

6. Fixed facilities:

a. Assembly area (AA) with a landing site, bivouac site, latrine, and briefing area with bleachers.

b. After action review (AAR) site with an extraction site, bivouac site, latrine, and briefing area with bleachers.

7. Special instructions:

a. A standard scenario is included in the Range Book given to the RNOIC when signing for the facility. Range layout shows preparation and assembly areas, attack positions, line of departure, and objectives. Any departure from standard must be coordinated with Range Control and in compliance with requirements outlined in Chapter 12.

b. The RNOIC, RSO, and assistant RSO's will accompany the soldiers through the course and will carry a whistle as an emergency cease fire signal for daytime and a starcluster for night. The use of this emergency signal will be included in the range briefing to all personnel prior to using the squad and platoon ranges.

c. Leaders, controllers, and key players will do a terrain walk/ride prior to going "live".

d. Indirect fire and aviation support can be added to the scenario by coordinating with Range Control and meeting requirements outlined in Chapters 5, 10, and 12.

8. Authorized weapons:

- a. Organic to infantry platoon.
- b. M203 TP and illumination ammunition only.
- c. LAW and AT4 subcaliber only.

A-58

APH Reg 350-2 (1 Feb 96)
App A

1. Demolition Site 70A

2. Location: 05152128

3. Standard Training: Special demolition test operations.

4. Description: Consists of a flat open area with two protective berms at different locations and distances.

5. Use:

- a. Primary is special explosives testing.
- b. Alternate is basic instruction.

6. Fixed facilities: Concurrent training area with bleachers.

(Shared with DS 70B)

7. Special instructions:

- a. Max charge 200 lbs.
- b. Basic demolition charges will be placed on bare ground unless prior approval for use of targetry is obtained from Range Control. Material and facilities located at the site are not for general use. RNOIC, RSO, and unit commander will be held responsible for damage to facilities, ballistic plates, or other on-site material.
- c. Bivouac on site is permitted.
- d. Observation booth and wooden platform by main berm are for camera equipment only.
- e. Area will be repaired to standard and policed of trash and debris.
- f. Flagpole is at entrance on North Range Road.

A-59

APH Reg 350-2 (1 Feb

96)

App A

1. Demolition Site 70B
2. Location: 04602025
3. Standard Training: Combat engineer demolition operations.
4. Description: Open area bordered by trees. Includes part of RN19 impact area.
5. Use:
 - a. Basic Instruction.
 - b. Crater.
 - c. Shape.
 - d. Tree Cutting.
 - e. Steel Cutting.
 - f. Bangalore.
 - g. Claymore.
6. Fixed facilities: Concurrent training area with bleachers. (Shared with DS70A)
7. Special instructions:
 - a. Max charge 150 lbs.
 - b. Bivouac is available close to the site.
 - c. Area will be policed according to Range NCO instructions.

d. Flagpole is at entrance on North Range Road.

A-60

APH Reg 350-2 (1 Feb 96)
App A

1. Demolition Site 71A
2. Location: 06701948
3. Standard Training: Special demolition test operations.
4. Description: Site is an open dirt pit approximately 150 meters across.
5. Use:
 - a. Primary is special explosives testing and countermine operations.
 - b. Alternate is basic instruction.
6. Fixed facilities:
 - a. Concurrent training area with covered bleachers.
 - b. Latrine.
 - c. Range phone.
 - d. Ballistic booths for overhead protection.
7. Special instructions:
 - a. Max charge 200 lbs.
 - b. Basic demolition charges will be placed on bare ground unless prior approval for use of targetry is obtained from Range Control. Material and facilities located at the site are not for general use. RNOIC, RSO, and unit commander will be held responsible for damage to facilities, equipment, ballistic plates, or other on-site material.

c. Area will be repaired and trash and residue will be policed and properly disposed of as instructed by Range NCO.

d. Flagpole is located at Goldman's gate entrance to the impact area.

A-61

APH Reg 350-2 (1 Feb

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App A

1. Demolition Site 71B

2. Location: 06091920

3. Training: Combat Engineer breaching and demolition operations.

4. Description: Site is an open area with a road network bordered by trees.

5. Use:

a. Basic Instruction.

b. Crater.

c. Shape.

d. Tree cutting.

e. Steel cutting.

f. Bangalore.

g. Claymore.

6. Fixed facilities: Concurrent training area with bleachers.

7. Special instruction:

a. Max charge 150 lbs.

b. Bivouac on site is permitted.

c. Area will be repaired and policed according to Range NCO instructions.

d. Flag pole is located at Goldman's gate entrance to the impact area.

A-62

APH Reg 350-2 (1 Feb 96)
App A

1. Demolition Site 71C

2. Location: 06821880

3. Training: Combat Engineer breaching and demolition operations.

4. Description: Site is a road junction in a tree covered area.

5. Use:

a. Basic Instruction.

b. Crater.

c. Shape.

d. Tree cutting.

e. Steel cutting.

f. Bangalore.

g. Claymore.

6. Fixed facilities: None.

7. Special instructions:

a. Max charge 150 lbs.

b. Bivouac is available close to the site.

c. Area will be repaired and policed according to Range NCO instructions.

d. Flag pole is located at Goldman's gate entrance to the impact area.

A-63

APH Reg 350-2 (1 Feb

96)

App A

1. Demolition Site 71D

2. Location: 05521883

3. Training: Special operations.

4. Description: Site is an open area with a road network bordered by trees.

5. Use:

a. Primary is special explosives testing.

b. Alternate is basic instruction.

6. Fixed facilities:

a. Concurrent training area with bleachers.

b. Evacuation bunker.

7. Special instructions:

a. Max Charge 400 lbs.

b. Basic demolition charges will be placed on bare ground unless prior approval for use of targetry is obtained from Range Control. Material and facilities located at the site are not for general use. RNOIC, RSO, and unit commander will be held responsible for damage to facilities, equipment, ballistic plates, or other on-site material.

- c. Bivouac is available on site.
- d. Area will be repaired and trash and residue will be policed and disposed of as instructed by Range NCO.
- e. Flagpole is located at Goldman's gate entrance to the impact area.

A-64

APH Reg 350-2 (1 Feb 96)
App A

- 1. Demolition Site 72
- 2. Location: 10302056
- 3. Training: Basic instruction and combat engineer breaching and demolition operations.
- 4. Description: Site consists of a large rolling open area with a road network and bordered by trees.
- 5. Use:
 - a. Basic instruction.
 - b. Crater.
 - c. Shape.
 - d. Tree cutting.
 - e. Bangalore.
 - f. Claymore.
- 6. Fixed facilities.
 - a. Concurrent training area with covered bleachers.
 - b. Latrine.
- 7. Special instructions:

- a. Max charge 110 lbs.
- b. All obstacles, facilities, or terrain damage are the units responsibility to repair back to standard.
- c. Bivouac on site is permitted.
- d. Area will be policed and trash and residue will be disposed of as instructed by Range NCO.
- e. Flagpole is located on Garnet road at entrance to the facility.

A-65

APH Reg 350-2 (1 Feb

96)

App A

- 1. Demolition Site 73
- 2. Location: 10462115
- 3. Training: Basic demolition.
- 4. Description: Site consists of an open area for basic instruction bounded by trees.
- 5. Use:
 - a. Basic instruction.
 - b. Tree cutting.
- 6. Fixed facilities:
 - a. Tables for basic demolition assembly.
 - b. Concurrent training area with bleachers.
 - c. Latrine.
- 7. Special Instructions:
 - a. Max charge 10 lbs.
 - b. No single basic demolition training charge will exceed 1/4 lb nor will Max Charge for this training exceed 10 lbs in individual 1/4 lb charges.

- c. Bivouac on site is permitted.
- d. Area will be repaired and policed according to Range NCO instructions.
- e. Flagpole is located on Garnet Road at entrance to the facility.

A-66

APH Reg 350-2 (1 Feb 96)
App A

- 1. Demolition Site 74
- 2. Location: 10922136
- 3. Training: Steel cutting.
- 4. Description: Site consists of a steel cutting safety bunker and an open area bounded by trees.
- 5. Use:
 - a. Steel cutting.
 - b. Tree cutting.
 - c. Basic instruction.
- 6. Fixed facilities:
 - a. Steel cutting bunker.
 - b. Concurrent training area with covered bleachers.
 - c. Latrine.
- 7. Special Instructions:
 - a. Max charge is 10 lbs outside the bunker, 2 lbs inside the bunker.

b. Charge size per section cut for steel is 2 lbs and one section cut at a time is allowed in the bunker.

c. Demolition training may be accomplished by placing charges in the bunker or by placing charges at least 100 meters outside the bunker and using it as a missile proof shelter.

d. Bivouac on site is permitted.

e. Area will be repaired and policed according to Range NCO instructions.

f. Flagpole is located on Garnet Road at entrance to the facility.

A-67

APH Reg 350-2 (1 Feb 96)
App A

1. Demolition Site 75

2. Location: 08031648

3. Training: Basic instruction, advanced combat engineer demolitions, and MICLIC.

4. Description: Site consists of an open area inside the Daniel Impact Area.

5. Use:

a. Crater.

b. Shape.

c. Steel cutting.

d. Bangalore.

e. Claymore.

f. MICLIC.

6. Fixed facilities: Concurrent training area with bleachers.

7. Special Instruction:

a. Max charge 150 lbs.

b. Use of on site target material must be cleared in advance by Range Control.

c. Viewing of MICLIC detonations by non-mission essential personnel will be from OP 8, 9, or 10.

d. Area will be policed according to Range NCO instructions.

e. Flagpole is located on Ashcake Lane at Brandywine entrance to Impact Area.

f. Concurrent training area is located at OP8.

A-68

APH Reg 350-2 (1 Feb 96)
App A

1. Demolition Site 76

2. Location: 03691550

3. Training: Basic instruction, advanced combat engineer demolitions, and MICLIC.

4. Description: Site consists of open area, light bushy vegetated area, and trees.

5. Use:

a. Basic instruction.

b. Crater.

c. Shape.

d. Tree cutting.

e. Steel cutting.

f. Bangalore.

g. Claymore.

h. MICLIC.

6. Fixed facilities: Concurrent training area with bleachers.

7. Special Instructions:

a. Max charge is 400 lbs.

b. Basic demolition charges will be placed on bare ground unless prior approval for use of targetry is obtained from Range Control. Material and facilities located at the site are not for general use. RNOIC, RSO, and unit commander will be held responsible for damage to facilities, equipment, ballistic plates, or other on-site material.

c. Viewing of MICLIC detonations by non-mission essential personnel is not allowed.

d. Bivouac is available close to the site.

e. Area will be repaired and policed according to Range NCO instructions.

f. Flagpole is located at Delos lake gate.

A-69

APH Reg 350-2 (1 Feb

96)

App A

1. Demolition Site 77

2. Location: 02161546

3. Training: Advanced combat engineer demolition operations and EOD operations.

4. Description: Site consists of an open area in the Upper Zion Impact Area with several demolition pits.

5. Use:

a. Crater.

b. Shape.

c. Steel cutting.

d. Bangalore.

e. MICLIC.

f. EOD.

6. Fixed facilities: None.

7. Special Instructions:

- a. Max charge is 500 lbs.
- b. Hard targets and on site material will not be used as targets without Range Control permission.
- c. Viewing of MICLIC detonations by non-mission essential personnel will be from OP 1, 2, 3, 4, or 5.
- d. Area will be policed according to range NCO instructions.
- e. Flagpole is located at entrance to Double Zero gate.

A-70

APH Reg 350-2 (1 Feb 96)
App A

- 1. Demolition Site 78
- 2. Location: 98901530
- 3. Training: Basic instruction and combat engineer breaching and demolition operations.
- 4. Description: Site is a flat open area bounded by trees.
- 5. Use:
 - a. Basic instruction.
 - b. Crater.
 - c. Shape.
 - d. Tree cutting.
 - e. Steel cutting.
 - f. Bangalore.
 - g. Claymore.

6. Fixed facilities: Concurrent training area with bleachers.

7. Special instructions:

a. Max charge 50 lbs.

b. Basic demolition charges will be placed on bare ground unless prior approval for use of targetry is obtained from Range Control. Material located at the site is not for general use. RNOIC, RSO, and unit commander will be held responsible for damage to equipment, ballistic plates, or other on-site material.

c. Bivouac is available close to the site.

d. Area will be repaired and policed according to Range NCO instructions.

e. Flagpole is located at Double Zero gate.

A-71

96)

APH Reg 350-2 (1 Feb

App A

1. Demolition Site 79

2. Location: 00391800

3. Training: Basic combat engineer operations.

4. Description: Site consists of an open area with light vegetation and trees.

5. Use:

a. Basic instruction.

b. Tree cutting.

c. Steel cutting.

d. Claymore.

6. Fixed facilities: None.

7. Special Instructions:

- a. Max charge is 50 lbs.
- b. Bivouac is available close to the site.
- c. Area will be policed according to Range NCO instructions.
- d. Flagpole is located at Range 10 gate.

A-72

APH Reg 350-2 (1 Feb 96)
App A

- 1. Demolition Site 80
- 2. Location: 01311359
- 3. Training: Basic combat engineer operations.
- 4. Description: Site consists of a cratered open area with sparse underbrush and trees.
- 5. Use:
 - a. Basic instruction.
 - b. Crater.
 - c. Shape.
 - d. Tree cutting.
 - e. Steel cutting.

- f. Claymore.
- g. EOD.
- 6. Fixed facilities:
 - a. Latrine.
 - b. Concurrent training area with bleachers.
- 7. Special Instructions:
 - a. Max charge is 50 lbs.
 - b. Bivouac is available close to the site.
 - c. Concurrent training area and latrine are located at FP12.
 - d. Flagpole is located at OP 1 on South Range Road grid 019122.
 - e. Trash, residue, and debris will be policed and placed in the crater.

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APH Reg 350-2 (1 Feb 96)
App B

APPENDIX B
RNOIC/RSO COMMAND CERTIFICATION LETTER

SAMPLE LETTER

DEPARTMENT OF THE ARMY
HEADQUARTERS, 25TH INF DIVISION (LIGHT)
SCHOFIELD BARRACKS, HI 96857

UNIT ID

DATE

MEMORANDUM FOR RANGE CONTROL, FORT A.P. HILL, VA

SUBJECT: Commander's Certification of Range Officer In Charge
(RNOIC) and Range Safety Officer (RSO)

1. I certify the personnel listed below to perform the duties

of RNOIC/RSO for my unit. They have been thoroughly trained and have demonstrated a complete knowledge of the weapons and ammunition that will be used on the range facilities at Fort A.P. Hill.

2. The individuals named below know and understand the requirements directed by AR 210-21, AR 385-63, AR 385-64, and APH REG 350-2. They are additionally aware that they must have a current briefing card in their possession at all times while acting in the capacity of RNOIC/RSO.

3.	NAME	RANK	SSN
	Tentpeg, Joseph E.	1LT	123-45-6789
	Snuffy, Harold D.	SFC	987-65-4321

4. POC is the undersigned, phone DSN XXX-XXXX or commercial (XXX) XXX-XXXX.

J.R. EWING
LTC, IN
COMMANDING

SAMPLE LETTER

B-1

APH Reg 350-2 (1 Feb 96)
App C

APPENDIX C
AMMUNITION FOUND ON POST (AFOP) RECOVERY PROGRAM
AND AMMUNITION AMNESTY PROGRAM (AAP)

1. AFOP Recovery Program.

a. All AFOP will be considered hazardous and will not be moved or disturbed by anyone other than Range Control or Explosive Ordnance Demolition (EOD) personnel.

b. When AFOP is discovered immediately notify Range Control 8374/8410 or the Military Police 8425/8239.

c. The Provost Marshal's Office (PMO) will immediately notify Range Control on all calls and respond to any area outside the Impact Area to secure the site until released by Range Control. PMO will respond to locations in the Impact Area when requested by Range Control.

d. Range Control will respond to all calls of AFOP,

identify the type ordnance, and make the decision on disposition to include contacting (EOD) when required.

e. Range Control will maintain an emergency notification roster in their briefcase at the SDO location to be used whenever Range Control is closed.

f. Range Control personnel will document receipt of AFOP on DA Form 3265-R and accountability and/or turn-in will be handled as follows:

(1) Hazardous explosive ordnance that cannot safely be moved will be blown in place by EOD with appropriate documentation given to the Ammunition Supply Point (ASP). The site will be secured by PMO personnel, when requested by Range Control, until EOD arrives and disposes of the hazardous ordnance.

(2) AFOP that can safely be moved during normal ASP operating times (0800-1530 Monday - Friday) or anytime the ASP is open for operation will be turned in by Range Control or EOD personnel to the ASP.

(3) AFOP found during times when the ASP is not operational, that can safely be moved, will be transported by Range Control or EOD to DS 77 where it will be stored until normal operating hours of the ASP.

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APH Reg 350-2 (1 Feb 96)
App C

2. Ammunition Amnesty Program.

a. The Ammunition Amnesty Program is necessary to ensure maximum recovery of military ammunition, explosives, and residue material. Individuals will be provided an opportunity to return ammunition which has been stolen, misplaced, or erroneously left in the possession of a unit after turn-in and reconciliation has been finalized. These returns can be made without fear of prosecution and will not be the basis for initiating an investigation of the individuals making the turn-in.

b. Individual turn-in. To ensure proper control and safety, ammunition amnesty boxes are not used. However, any individual may turn in ammunition to an ASP operator or any Range Control personnel and no paperwork or questions will be asked. Range Control personnel will turn in AAP ordnance to the ASP according to paragraphs 2c(2) and 2c(3) of this document.

c. Unit turn-in. The Ammunition Amnesty Program is not a substitute for normal turn-in procedures and will not be used to circumvent standard supply procedures. Units discovering ammunition on hand after having reconciled their accounts are encouraged to make an amended turn-in. An amended turn-in is accomplished by preparing a new DA Form 581 for the remaining ammunition. Note in block 11 the original issue document number if known, and state "This is an amended turn-in document." The unit is responsible for maintaining security and control of AAP ordnance until it can be turned in to the ASP.

(1) When prompt turn-in of "amended return ammunition" cannot be accomplished due to the ASP being closed and the unit's mission and/or scheduled departure would be significantly affected, turn-in may be made to Range Control.

This may be accomplished either at the Range Control operations center or to a site designated by Range Control. The unit is still required to provide Range Control with their completed DA Form 581.

(2) The advantages of amended turn-ins over other amnesty turn-in procedures are that ammunition can be immediately accounted for and credited to the unit's account.

d. The benefits of the AAP is that individuals can hold, transport, and turn-in items without documents authorizing them to be in possession of ammunition and without fear of prosecution. The intent is to encourage return of ordnance rather than dumping, hiding, or stealing it.

e. The PMO will assist Range Control with security of AAP ordnance when requested, until final turn-in to the ASP can be accomplished.

C-2

APH Reg 350-2 (1 Feb 96)
App C

3. Briefings.

a. Annual Training (AT) unit commanders will brief their soldiers on the FT A.P. Hill AFOP and AAP prior to drawing any ammunition for training. This briefing may take place up to 30 days prior to AT at home station.

b. All other active and reserve component commanders using the installation will ensure that a briefing has been provided to all their personnel within 90 days of the scheduled training period.

c. The briefing will include the following points of contact for information and assistance:

	Comm (804) 633- or AV 578-	On Post
ASP 8801/8832	8801/8803	
Range Control 8224/8374	8224/8374	
PMO 8425/8239	8425/8239	

C-3

APH Reg 350-2 (1 Feb 96)
App D

APPENDIX D DUD BRIEFING

1. INTRODUCTION: The purpose of this briefing is to impress upon each individual the danger of unexploded ammunition (DUDS), ignitors, simulators, fuses, or other unidentifiable material that may be found while occupying the range and training facilities on Fort A.P. Hill. It is imperative for each individual to know the exact procedures to follow upon location of any of these items.

2. PRESENTATION: Fort A.P. Hill has been in existence since 1942 and since that time high explosive ammunition has been fired daily. There exists large quantities of unexploded ammunition throughout the impact area and to some extent even in the training areas. Some of this deadly material has been lying and waiting many years for a "curiosity seeker" to come and give it the slightest touch. It is not unlikely that you might discover a dud round, ignitor, fuse, simulator, or some type of unidentifiable object during the conduct of training on Fort A.P. Hill. The most important rule to remember from this briefing is: NEVER TOUCH A DUD, IGNITOR, FUSE, SIMULATOR, OR UNIDENTIFIABLE OBJECT. If you discover a dud, ignitor, fuse, simulator, or any unidentifiable object stay well away from the object. Duds can explode even from a foot striking the ground or driving stakes or tent pegs into the ground. Notify your OIC, NCOIC, or supervisor immediately and show him the exact location. He will in turn notify Range Control by radio FM 32.00/38.50 or phone 8374/8410. Only trained personnel are qualified to handle duds, ignitors, fuses, simulators, or unidentifiable objects. Anyone else handling these materials is dealing directly with death. All personnel must stay away from this area until after Range Control or EOD has arrived and disposed of the material.

3. SUMMARY: This briefing has been short and to the point. It was designed to protect your life and limbs. Some before you have chosen to disregard it and are now missing arms, fingers, or worse. Remember, "don't touch" anything that might even remotely be unexploded ordnance - notify Range Control immediately.

D-1

APH Reg 350-2 (1 Feb 96)
App E

APPENDIX E FORMAT FOR REQUEST FOR USE OF FACILITIES

References to be used in conjunction with this Appendix are Fort A. P. Hill Regulations 95-1, 350-1 and 350-2.

LETTER HEADING

OFFICE SYMBOL

DATE

MEMORANDUM FOR Commander, Fort A. P. Hill, ATTN: ANAP-OP,
Bowling Green, VA 22427-5000

1. Request that training facilities/ranges be provided as follows:

a. Unit/activity designation, mailing address, Point of Contact (POC) and Defense Switching Network/Commercial telephone number.

b. Dates and time of arrival and departure of:

(1) Advance Party.

(2) Main Body.

(3) Rear Detachment.

c. Unit Training Strength:

OFF _____, WO _____, ENL _____, CIV _____.

d. Range Facility Requests.

(1) Schedule of activity:

Range Ammuni- Facility	Use	Bivouac On Site Yes/No	Date/Time Begin Fire End Fire	Type/Calibre Weapons & Explosives	Type
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(2) Request special targetry or assistance and what location.

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APH Reg 350-2 (1 Feb 96)
App E

(3) Demolitions training state objectives, i.e. basic instruction, tree cutting, craters, etc.

(4) Nonstandard range requests include brief description of activity.

(5) Range Facility requests requiring overlays will be conditionally approved pending receipt and approval of overlays.

e. Training area/facility requirements. (See APH Reg 350-1, Training).

Training Date/Time	Bivouac	Training	Type	Date/Time	
<u>Area</u>	<u>Coordinates</u>	<u>Facility</u>	<u>Training</u>	<u>Occupy Area</u>	<u>Clear</u> <u>Area</u>

f. Aviation requirements: (See APH Memorandum 95-1 and Appendix C, this regulation).

Type Date/Time	Number	Airfield/	LZ/PZ	FTA	
<u>A/C</u>	<u>of A/C</u>	<u>Heliport</u>	<u>Required</u>	<u>Course</u>	<u>of Use</u>

g. Airborne Operations. (See paragraph 4-20, this regulation).

Type Date/Time	Number	Altitude	Number of	Frequencies	
<u>A/C</u>	<u>of A/C</u>	<u>of Drop (AGL)</u>	<u>Personnel</u>	<u>to be Used</u>	<u>of</u> <u>Drop</u>

h. Training aids/devices and audio visual equipment: (See APH Reg 350-1).

2. Request the following logistical support:

a. Campsite Requirements. (See APH Reg 350-1).

- (1) Number of officers to be billeted.
- (2) Number of EM to be billeted.
- (3) Number of EW to be billeted.
- (4) Dining facility required.
- (5) Arms room required.
- (6) Maintenance area required.

b. Dining Facility Support. (See APH Reg 350-1).

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APH Reg 350-2 (1 Feb 96)
App E

c. Ammunition: (See APH 350-1).

d. POL: (See APH 350-1).

MOGAS

DIESEL

JP4

Number of Gallons

- e. Subsistence. (See APH Reg 350-1).
 - f. Vehicle Support. List type and number of vehicles required.
 - g. Visiting Officer Quarters (VOQ) and Distinguished Visitor Quarters (DVQ). (See APH Reg 350-1).
 - h. Communications Support: (See APH Reg 350-1).
 - i. Funding Documentation: (See APH Reg 350-1).
3. The name and telephone number of POC for the various areas not covered by the POC in paragraph 1a are:

<u>POC</u>	<u>TYPE</u> <u>SUPPORT</u>	<u>TELEPHONE</u> <u>NUMBER</u>
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Signature Block
Commanding Officer

NOTE: Each paragraph in sample letter above will be addressed giving required information, stating that information will be forwarded via separate correspondence or that support is not required in that area.

APPENDIX F
RANGE OPERATIONS SPILL RESPONSE PLAN

1. PURPOSE: To establish procedures to be followed in the event a spill occurs anywhere in the Impact Area.

2. POLICY: This directive applies to all releases of oil, gasoline, diesel fuel, heating fuel, solvent, sewage, and other hazardous or toxic liquids. Actions to control, contain, remove, and clean-up spills are to begin whenever a spill occurs. The responsibility for initiating these procedures rests with the ranking military or civilian at the scene. It is his additional responsibility to ensure that the spill is promptly reported as outlined below.

3. NOTIFICATION: The ranking individual observing a spill of any type or quantity will immediately notify Range Control on FM 32.00, 38.50, or by telephone (8374). The report should include:

- a. Location.
- b. Time of occurrence.
- c. Type of spill (ie POL, etc) if known.
- d. Estimate of quantity and if spill is still in progress.
- e. Affected area.
- f. Cause if known.

4. Range Control will immediately initiate the installation spill response plan and respond to the site.

APPENDIX G RISK ASSESSMENT

1. The Risk Management Process.

a. Risk identification - (this is a risk). Hazards are identified by an operational analysis of a typical scenario and on-site inspection. Figure 1 is a sample operational analysis.

b. Risk evaluation and quantification - (the risk is of this magnitude). Hazards are evaluated to determine their severity and probability. See table 1 and table 2.

c. Risk reduction - (the risk can be reduced by doing this and this). Alternate and deliberate methods are developed to reduce the risk potential of the identified hazards .

d. Risk decision making - (this risk is acceptable; this risk is not). The commander decides what risks are acceptable and necessary in order to accomplish the mission.

e. Risk level estimation. The level of risk associated with each hazard is estimated using the Risk Assessment Code (RAC) from AR 385-10. A risk value of 1 is assigned the highest level and a risk value of 5 to the lowest level of risk. See table 3.

f. Risk assessment is done using a Master Risk Assessment Record. This ties together all aspects of the risk assessment process. The severity and probability categories are listed and RAC assigned with control options or methods of reducing the risk shown.

g. When the Master Risk Assessment Record (figure 2 is a sample) is completed the RAC's are summed and compared to a risk gauge to give a risk level for the entire operation. The number of hazards are multiplied by five (which is the highest possible RAC) to get the highest possible score. High risk is 0-25%, caution is 26%-75%, and low risk is over 75%.

h. Supervision. Once the hazards are identified and risk reduction controls are in place supervisors must ensure they are implemented and followed.

2. Figure 1. (sample) OPERATIONAL ANALYSIS:

- a. D -5 to D 0 Garrison preparation:
 - (1) Unit briefing.
 - (2) Prepare weapons and ammunition.
 - (3) Prepare transportation.
- b. 0600 - 0800 Deployment to the training area.
- c. 0800 - 0930 Introductory training.
- d. 0930 - 1200 Dry-fire operations:
 - (1) Simulated or actual insertion into target area.
 - (2) Assault on target or similar objective.
 - (3) Defensive phase.
 - (4) Extraction or simulated extraction.
- e. 1200 - 1300 Chow.
- f. 1300 - 1800 Live-fire operations:
 - (1) Insertion.
 - (2) Assault on objective.
 - (3) Defensive phase.
 - (4) Extraction.
- g. 1800 - 1900 Chow.
- h. 1900 - 2100 Recovery and return to base.
- i. 2100 - 2200 After action activities:
 - (1) Account for personnel and sensitive items.
 - (2) Secure sensitive items.
 - (3) After action review with personnel.

3. TABLE 1. Hazard Probability:

- a. Description: FREQUENT
Level: A
Individual Soldier or Item: Likely to occur frequently.
All Soldiers, Fleet, or Inventory Exposed: Continuously experienced.
- b. Description: LIKELY
Level: B
Individual Soldier or Item: Occurs several times in career or equipment service life.
All Soldiers, Fleet, or Inventory Exposed: Occurs frequently.
- c. Description: OCCASIONAL
Level: C
Individual Soldier or Item: Occurs sometime in career or equipment service life.
All Soldiers, Fleet, or Inventory Exposed: Occurs sporadically or several times in inventory service life.
- d. Description: SELDOM
Level: D
Individual Soldier or Item: Unlikely but possible to occur in career or equipment service life.
All Soldiers, Fleet, or Inventory Exposed: Unlikely but remote chance of occurrence;
- e. Description: UNLIKELY
Level: E
Individual Soldier or Item: Can assume will not occur in career or equipment service life.
All Soldiers, Fleet, or Inventory Exposed: Possible, but improbable - occurs only very rarely.

4. TABLE 2. Hazard Severity/Effect Definitions:

- a. Description: Catastrophic
Category: I
Definition: Death or permanent total disability, system loss, major property damage.
- b. Description: Critical
Category: II
Definition: Permanent partial disability, temporary total disability in excess of 3 months, major system damage, significant property damage.

c. Description: Moderate

Category: III

Definition: Minor injury, lost workday accident, compensable injury, or illness, minor system damage, minor property damage.

d. Description: Negligible

Category: IV

Definition: Less than minor injury requiring only first aid or minor supportive medical treatment, minor system impairment.

5. TABLE 3. Risk Assessment Code Matrix:

HAZARD SEVERITY	ACCIDENT PROBABILITY				
	A FREQUENT	B LIKELY	C OCCASIONA L	D SELDOM	E UNLIKELY
I CATASTROPHIC	1	1	2	2	3
II CRITICAL	1	2	2	3	4
III MARGINAL	2	3	3	4	4
IV NEGLIGIBLE	3	4	4	4	4

6. Risk Assessment Code (RAC) Definitions:

- a. #1 EXTREMELY HIGH - loss of ability to accomplish mission.
- b. #2 HIGH RISK - significantly degrades mission capabilities in terms of required mission standards.
- c. #3 MEDIUM RISK - degrades mission capabilities in terms of required mission.
- d. #4 LOW RISK - little or no impact on mission accomplishment.

App G

7. Figure 2. MASTER RISK ASSESSMENT RECORD:

<u>HAZARD</u>	<u>CAUSES</u>	<u>EFFECTS</u>	<u>PROBABILITY</u>	<u>SEVERITY</u>	<u>RAC</u>	<u>CONTROL OPTIONS</u>
Vehicle Accident	-Improper Maintenance. -Improper Driving. -Other Drivers. -Troops on roadway.	-Equipment damage. -Injuries or death.	C	1	2	-Driver training. -Command emphasis vehicle safety.
Cold Injury	-Temperature. -Wind.	-Frostbite and colds.	D	3	4	-Proper clothing. -Modify training schedule.
Heat Injury	-Temperature.	-Heat stroke. -Heat exhaustion.	C	2	3	-Proper clothing. -Modify training schedule.
Falls and Trips	-Lack of attention. -Loose material on ground. -Plant growth.	-Injuries.	D	3	3	-On site training. -Periodic grounds maintenance.
Round Ricochets controller	-Shooting outside of prescribed limits. -Personnel maneuvering outside of prescribed limits.	-injuries or death.	D	2	2	-Competent personnel. -Command emphasis on safety. -Maneuver personnel thoroughly briefed on fire and movement.